EPA ID — 12-10-97 IND 016360265

Part B Application Public Information Copy

American Chemical Service
420 South Colfax Avenue
Griffith, Indiana 46319

Contact: James Tarpo
President
312-768-3400

IND 016 360 265

I. DESCRIPTION OF FACILITY

American Chemical Service's business consists of Custom Chemical manufacturing, solvent reclaiming, and processing of hazardous wastes. On site is the equipment to receive, process, and ship various solvents and chemicals in drums and bulk.

Figure (19)-10 shows the property boundaries, adjacent highway, drainage ditch, holding pond, tanks area and on-site buildings.

Figure (19)-10 shows the three locations where hazardous materials are stored. Figure (20)-2-4 Locations A,B,C show detailed drawings of each location.

All tanks at these locations have welded steel construction and a minimum thickness of 0.25 inches. Each tank is equipped with a direct reading gauge. Venting capacity is suitable for the loading and unloading rates. All motors on pumps or mixers in the hazardous locations are explosion proof. Class I, Group D. (20)-2-3 lists all tanks at the locations. A dike surrounds each fixed storage area. The volume of the diked area is based on the Indiana Fire Marshall's Flammable Liquid and allowances, Inc. All locations are accesible to mobile equipment from all sides.

Location A shown in Figures(19)-10, (20)-2-4 Location A is used for storage of 55 gallon drums. These drums contain crude solvents to be processed. Crude solvents are pumped to storage tanks in Location B and hazadous wastes are pumped to storage tanks in Location C. Approximately 600 drums can be stored in Location A.

Location B shown in Figures(19)-10 and (20)-2-4 Location B is used for the storage and processing of hazardous waste. Bulk shipments are unloaded with a pump at northern boundary. Outgoing shipments are pumped to a tank wagon spotted at eastern boundary.

Location C shown in Figures(19)-10 and (20)-2-4 Location C is used for the storage of crude solvents to be reclaimed. Bulk shipments are unloaded with a pump at western boundary. These solvents are processed in the reclaim facility shown in figure(19)-10.

As part of the Spill Prevention Control and Countermeasures Plan all tank farms are diked. Provisions have been made to direct all spills into the double decanter spill containment system. The area surrounding the hazardous waste handling facilities is graded into a surface run off system of catch basins and retention ponds. See (19)-10.

(2) Chemical and Physical Analyses

The hazardous wastes handled in our plant are multi-component organic solvents, resins, and pigment materials. Direct sales effort is utilized to solicit business. We count on direct contact by sales staff with all generators. No samples are even analyzed until we know the source process generating the waste and the types of materials that are used in the process.

All materials, except solidified resins and pigments, are recycled into fuel use or solvent use. The analytical work required for these end uses does not require detailed component breakdowns.

Samples of each waste stream are analyzed in the lab before any shipments are arranged. A report on each customer is filed in the office. Attached are sample analyses of typical incoming samples.

(4) Security Procedures

Unknowing or unauthorized entry of persons or livestock is prevented by a fence around the entire facility with controlled entries. See (19)-10.

The railroad siding gate which is unlocked and opened for railroad switching is monitored by plant personnel until the work is completed. It is then relocked.

The key controlled main gate with an automated digital code operation allows controlled entry during the entire day. An intercom system at the gate entrance allows communication with truck drivers, salesman, and customers to identify and direct them to the proper receiving areas.

Inside the fence boundary, signs with the legend "Danger - Unauthorized Personnel Keep Out" are posted at each entrance to the active portion of the facility.

Physical contact with the waste within the active portion of the facility is minimized since the waste is in tanks on containers.

(5) - 264.15 MAINTENANCE INSPECTION PROCEDURE

A.) Daily the plant is inspected by maintenance personel according to the following:

1. General
2. Blending
3. Boilers
4. Epoxol
5. Reclaiming
6. Additives

B.) Each area or facility has a check list to help outline the inspection procedure.

C.) Following the outline and thru visual observation a maintenance action sheet is filled out listing problems.

D.) If a problem listed is corrected during inspection, the problem is dated and initialed.

E.) After the inspection the inspection log is initialized and noted as follows:

OK - Area or facility shows no apparent problems
NOK - Area or facility has the problems as listed on the maintenance action sheet.

F.) Daily the inspection log and maintenance action sheets are reviewed by the maintenance supervisor. If additional action is required on the problem an entry is made into the maintenance log.

G.) The maintenance log is then used to schedule maintenance action.

H.) When the maintenance is performed and the problem is corrected the maintenance log is dated and the maintenance action sheet is dated and initaled.

1 Dec. 80

- Note - As of 1 Dec. 80 all maintenance action noted in the maintenance log will reflect the three hazardous waste areas:

A- Dock Drum Unload Area
B- Reclaimation Facility
C- Waste Fuel

According to categories as follows:

Reclaim & Barrel Facilities contains area B
Epoxol & General Facilities contains areas A & C

All records reflecting maintenance in areas A, B & C must be kept for 3 years.

GENERAL

- Drain off water on instrument Air Compressor & Clear Dryer Trap Strainer

- Check Dryer Suction Pressure Gauge (in green)

- Check Oil Levels:

    1.) Instrument Air Compressor (2)
    (change oil every 6 months)
    2.) #24 Agitator & #20 Agitator
    3.) Pump Speed Reducers
    - 5H.P. @ #11
    - 5H.P. @ #25
    - 7½H.P. @ Rock Drum Pump
    - 5H.P. Waste Fuel Load
    - 5H.P. Waste Fuel Unload
    - 10H.P. Waste Fuel Unload
    - 10H.P. Waste Fuel Transfer
    - 25H.P. Gorator
    - 5H.P. Tuthill Pump @ #20

- Grease:

    1.) Air Compressors
    2.) Waste Fuel Area
    3.) #24 Area
    4.) Dock Area

- Inspections:

    1.) Low Charge on Hand Fire Extinguishers
    2.) Extinguisher Covers
    3.) Header Steam & Condensate Leaks
    4.) Header Material Piping Leaks
    5.) Packing & Seal Leaks
    6.) Waste Fuel Tank Leaks
    7.) Condition of Waste Fuel Dike Walls
    8.) Nitrogen Charge & Condition of (3) Dry Chemical Extinguishers in Plant

- Complete Inspection Log

(5) 264.174 - Operating personnel are required daily to inspect containers and tanks for leaks or deterioration.

264.194 - Inspection (a)

1. There is no overfilling controll equipment in the plant. All systems are operated manually.

2. Vessels containing hazardous waste operating at elevated temperatures and nonatmospheric pressures continuously by plant personnel. Instrumentation shows the temperature, pressure and motors operating on each vessel.

3. There are no open tanks storing hazardous wastes.

4. All tanks storing hazardous wastes are above ground. The construction materials of the tanks are inspected daily for leaking of fixtures and seams by the maintenance inspection procedure.

5. The area immediately surrounding the tanks is inspected daily to detect obvious signs of leakage.

264.194 - Inspection (b)

1. Tanks containing hazardous waste are periodically cleaned. Inspections of the interior are then made.

2. Vessels operating at elevated temperatures and nonatmospheric pressures are usually cleaned monthly. They are inspected by a supervisor for pitting corrosion.

264.194 - Procedures (c)

In case of tank spills or leakage, all loading or unloading operations in the area are stopped. The emergency coordinator is notified. If needed he applies foam from the nearest system to minimize the fine hazard. He then pumps the hazardous liquid to a suitable storage tank with a portable pump. Sand is dumped on the remaining liquid on the ground and then removed to a solid blending bin. After further mixing with sand the solid waste is hauled to a landfill.

264.226 Inspections

Processing does not include on-site burial of hazadous wastes.
1. There are no liner systems at the facility.
2. There are no earth material liner systems.
3. There are no manufactured liner materials.
There are no surface impoundments at the facility.

264.254 Inspections

Processing does not include on-site waste piles.

(6) Preparedness and Prevention

Requirements have been implemented.

AMERICAN CHEMICAL SERVICE, INC.
420 South Colfax
Colfax Ave. at C & O RR.
P.O. Box 190
Griffith, IN 46319

Telephone - Area Code (219) 924-4370

EMERGENCY COORDINATOR -
JAMES MURPHY - PRIMARY
1524 Heather Court
Munster, IN 46321
Telephone (Home) - (219) 924-9835
(Work) - (219) 924-4370
(Beeper) - (219) 736-7000 - 3745

JOHN MURPHY
601 Stratford Terrace
Valparaiso, IN 46383
Telephone (Home) - (219) 464-2076
(Work) - (219) 924-4370
(Beeper) - (219) 736-7000 - 3746

TOM MURPHY
800 E. 38th Pl. Apt. 2E
Griffith, IN 46319
Telephone (Home) - (219) 838-0636
(Work) - (219) 924-4370

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As part of the Spill Prevention Control and Countermeasures Plan all tank farms are diked. Provisions have been made to direct all spills into the double decanter spill containment system. The area surrounding the hazardous waste handling facilities is graded into a surface run off system of catch basins and retention ponds. See (19)-10.

II. EMERGENCY EQUIPMENT

The list of emergency equipment is as follows:

1. Hand - held dry chemical fire extinguishers - 45
2. Wheeled dry chemical engines - 2
3. Foam units - 3
4. Caterpillar tractor - front end type - 1
5. Dump trucks - 2
6. Rubber tine back hoe - 1
7. Vacumm trucks (24 hour call) - 8
8. Portable pumps - 3
9. Sprinkler system - 2
10. Breathing apparatus and suits - 2
11. Communications system.

1. The hand-held dry chemical fire extinguishers are ABC type. They contain 20 pounds of dry chemical. Their location throughout the plant is shown in Figure 6. Hoosier Fire Equipment, Inc., Valparaiso, Indiana, regularly maintains and tests these extinguishers. The hand-held units are used on small fires within three feet of the base of the flames. All units are activated by a single valve for use by one man.

2. The wheeled dry chemical engines are ABC type. They contain 145 pounds dry chemical. The location of these two units is shown in Figure 6. Hoosier Fire Equipment regularly maintains and tests these extinguishers. The engines are specifically engineered for "one man" operation. They are designed to pass through normal doorways and are maneuverable across rough or broken terrain to insure accessibility to the fire. The engines are activated by a single valve and have an integral gauge for visual inspection. When fire occurs, the engines are wheeled to within approximately 40 feet upwind of the fire. The nitrogen valve is opened fully and the hose is uncoiled. The nozzle is opened and directed at the base of the flame with a side to side motion. Straight flow is used when within 10 feet of flames. The engines are designed for use on small to moderate fires.

3. The foam systems are HL-6 hand line foam nozzle type for use with National hand line foam liquid. With a water capacity of 60 gpm at 100 psi and a 3% concentration of foam liquid, the system produces 600 gpm of foam with a long range stream of 65 to 70 feet. The location and range of the three units are shown on Figure 7. Each system has an independent source of water. When foam nozzles are used, particular care should be taken to apply the foam as gently as possible. For straight stream use, the foam should be banked off the side of a wall or other obstruction. Foam can also be rolled onto the surface by hitting the ground in front of the spill or fire. Care should be taken to minimize the mixing of the foam and fuel. The system is designed for single man operation on moderate to large chemical fines.

4. The caterpillar tractor is a front end type and is on the site 24 hours a day. It is owned and operated by Leon Wells who is on 24 hour call. The unit is used to apply and remove sand for containment and cleanup of a spill. The spent sand is loaded into a dump box and hauled to Gary Land Development. Approximately 200 yards of sand are availble on the site to control any spill.

5. Two dump trucks capable of hauling 6 yards of sand each are on the site. The trucks are owned and operated by Leon Wells who is on 24 hour call. They are used to haul sand to the spill area.

6. A rubber tire back hoe, owned and operated by Leon Wells, is on the site. It is available 24 hours each day. Since it is very mobile, it is primarily used to apply and remove sand for small spills.

7. Eight vacuum trucks, capcity 5000 gallons each, are on call 24 hours each day. Mr. Frank owns and operates these trucks. which are approximately one hour travel time away from the plant.

8. Three portable, positive displacement pumps are available to pump liquid spills. Their capacity is 90 gpm. and hose lengths of 200 feet can be used.

9. Two sprinkler systems are installed at the plant. One is in the reclaim facility which is manually activated; the other is in the Epoxol facility which is automatically activated. See Figure 7 for these locations. Each has an independent water source.

10. Two breathing apparati are available in the plant. Each unit uses a compressed air cylinder. One unit with a total head covering is connected by 50 feet of hose to a cylinder. Availiable breathing time per cylinder is 30 minutes. The other unit with a face covering is totally self-contained, and has an available breathing time of 15 minutes. Complete body suits are available with each unit. They are both OSHA approved.

11. The communications system consists of seven phones place in areas throughout the plant. Four phones are capable of interplant communications only. They are located in the reclaim, additive manufacturing, epoxidation, and additive blending facilities. The other three phones can be used for interplant or outside calls. They are located in the lab, warehouse, and change room facilties. Figure 8 shows these location.

III ARRANGEMENTS WITH LOCAL AUTHORITIES

1. Reginal Administrator
   Ralph Coons
   Region V U.S. E.P.A.
   230 S. Dearborn Street
   Chicago, Illinois 60604
   Telephone (800) 424-8802

2. Griffith Fire Department - Copy of Contingency Plan given to
   Telephone 924-3151 the department on Nov. 11, 1981.

3. Griffith Police Department - Copy of Contingency Plan given to
   Telephone 924-3141 the department on Nov. 11, 1981.

4. Hammond Clinic
   7905 Calumet Avenue
   Munster, Indiana
   Telephone (219) 836-5800
   American Chemical Service, Inc. has been
   associated with the clinic for over 15 years.

5. Griffith Emergency Disaster Plan Committee, which
   was chaired by members of the Griffith Town Board,
   was met with on November 11, 1981.
   At that time we gave them our Contingency Plan,
   which was photocopied by them for future use in
   case of an emergency.

IV. EMERGENCY PROCEDURES

1. The immediate response to an imminent or actual emergency is the notification ~~of the emergency is the notification~~ of the emergency coordinator.

2. The emergency coordinator then notifies all facility personnel through the communications system.

3. He also notifies appropriate state or local agencies with designated response roles if their help is needed.

4. Whenever there is a release, fire, or explosion, the emergency coordinator must identify the character, the exact source, amount, and areal extent of any released materials.

5. Also the emergency coordinator must assess possible hazards to human health on th environment that may result from the release, fire, or explosion. This assessment must consider the effects of any toxic, inrritating, or asphyxiating gas that are generated, or the effects of any hazardous surface water run-off from water or any chemical agents used to control the fire and heat induced explosions.

6. If the emergency coordinator determines that the facility has had a release or fire that the plant personnel can control, he must take all measures necessary to reduce the fires, releases, or explosions that have occurred. These measures include use of fire extinguishers and foam systems, activation of sprinklers if necessary, use of portable pumps, use of bulldozer and back hoe with sand, use of breathing apparatus, and implementation of vacuum truck service.
   a. In case of tank rupture of a hazardous waste which partially fills a diked area the emergency coordinator must stop all loading and unloading operations in the area. He must apply foam from the nearest system to minimize the fire hazard. He then pumps the hazardous liquid to a suitable storage tank with a portable pump. Sand is dumped on the remaining liquid on the ground and then removed to a dump box which is hauled to ~~Gary Land Development~~ LANDFILL.

b. In case of a tank wagon spill of hazardous waste in an undiked area, the emergency coordinator must positon fire fighting equipment near the spill. He then mobilizes the mobile equipment to dump sand on the affected area which is then removed to a dump box. During the cleanup all Unnecessary traffic must be dept 100ft. away from the area.

c. In case of the rupture of drums of a hazardous waste the emergency coordinator must position fire fighting equipment near the spill. He then removes full drums away from the area. Sand is applied to the spill and is then removed to a dump box.

d. In the case of any spill the emergency coordinator notifies plant personnel to perpare for immediate facility shutdown. All loading or unloading operations are halted.

e. In case of fire the emergency coordinator orders immediate facility shutdown at the reclaim, additives, epoxidation, additivres blending, batch manufacturing, and warehouse areas. This shutdown includes the breaking of electrical mains in all areas except on cooling water pumps and deep well pumps. He then mobilizes appropriate dry chemical or foam system to combat the fire.

7. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility he must report his findings as follows:

   a. If his assessment indicates evacuation of local areas may be advisable he must notify the Griffith Police immediately. Homes and businesses south of the facility, 1/8 mile away, must evacuate south on Arbogast. Also northbound traffic is stopped at the intersection of Arbogast and Avenue H approximately ½ mile south of the facility. Southbound traffic is stopped at the intersection of

Colfax and Main about ½ mile north of the facility. The C & O and Grand Trunk railroads are notified to stop all traffic through the Griffith area.

b. He must immidiately notify the National Response Center (800) 424-8802 and report as follows:
   i. JAMES MURPHY - EMERGENCY COORDINATOR
      TELEPHONE (219) 924-4370
   ii. AMERICAN CHEMICAL SERVICE, INC.
      COLFAX AVENUE AT C & O RAILROAD
      GRIFFITH, INDIANA 46319
   iii. TIME AND EITHER FIRE OR RELEASE
   iv. NAME AND QUANTITY OF MATERIALS INVOLVED
   v. THE EXTENT OF INJURIES IF ANY
   vi. THE POSSIBLE HAZARDS TO HUMAN HEALTH, OR THE ENVIRONMENT, OUT SIDE THE FACILTY.

8. During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include where applicable, stopping processes and operations, collecting and containing release waste, and removeing or isolating containers.

9. If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildings, gas generation, or rupture in valves, pipes or other equipment.

10. Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

11. The emergency coordinator must ensure that no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed. He also must ensure that all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

12. The emergency coordinator must notify the Regional Administrator, and appropriate State and local authorities that the facility is in compliance with paragraph 11 of this section before operations are resumed.

13. The emergency coordinator must note in the operating record the time, date, and details of any incident to the Regional Administrator. The report must include:
    a. JAMES MURPHY
       1524 HEATHER COURT
       MUNSTER, INDIANA 46321
       TELEPHONE (219) 924-9835
    b. AMERICAN CHEMICAL SERVICE, INC.
       420 SOUTH COLFAX
       GRIFFITH, INDIANA 46319
       TELEPHONE (219) 924-4370
    c. DATE, TIME, AND TYPE OF INCIDENT
    d. NAME AND QUANTITY OF MATERIALS INVOLVED
    e. EXTENT OF INJURIES
    f. ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT
    g. ESTIMATED QUANTITY AND DISPOSITION OF RECOVERED MATERIAL THAT RESULTED FROM THE INCIDENT

EVACUATION PLAN FOR PLANT PERSONNEL

In the event that the emergency coordinator decides to evacuate plant personnel from the site, the evacuation plan will be as follows:

1) Personnel in the office, maintenance and warehouse areas will evacuate through the southeast gate and head south along Colfax Ave. to Reder Road and wait.
2) Personnel in the reclaim and barrel house areas will go directly south, cross the C & O railroad tracks, go east to Colfax, then south on Colfax to Reder Road and wait.
3) Personnel in the Epoxol area will proceed west to the road on the western boundary of the plant, head south, cross the C & O railroad tracks, go east to Colfax, then head south to Reder Road and wait.
4) Personnel in the A-575 and dock areas will head southwest, cross the C & O railroad tracks, go east to Colfax, then south to Reder Road and wait.

After the evacuation is completed, the emergency coordinator will account for all plant personnel at the meeting point. (Colfax & Reder Road)

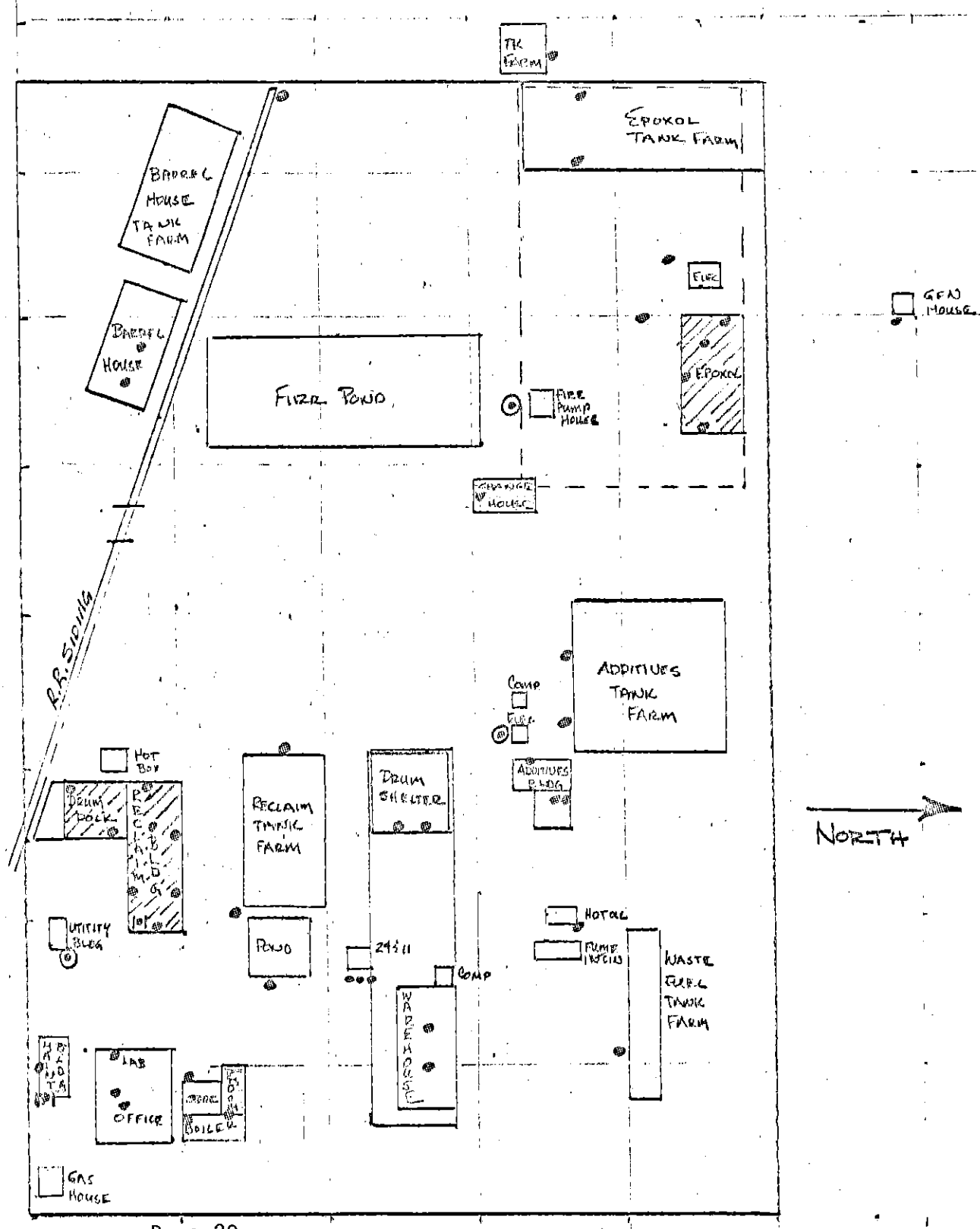
FIGURE 6

FIRE PREVENTATION PLAN

MARCH 80

- FOAM SYSTEM
- FIRE EXTINGUISHER
- DRY CHEMICAL WHEEL UNITS
- SPRINKLER BUILDING
- SMOKING AREA

CONFIDENTIAL

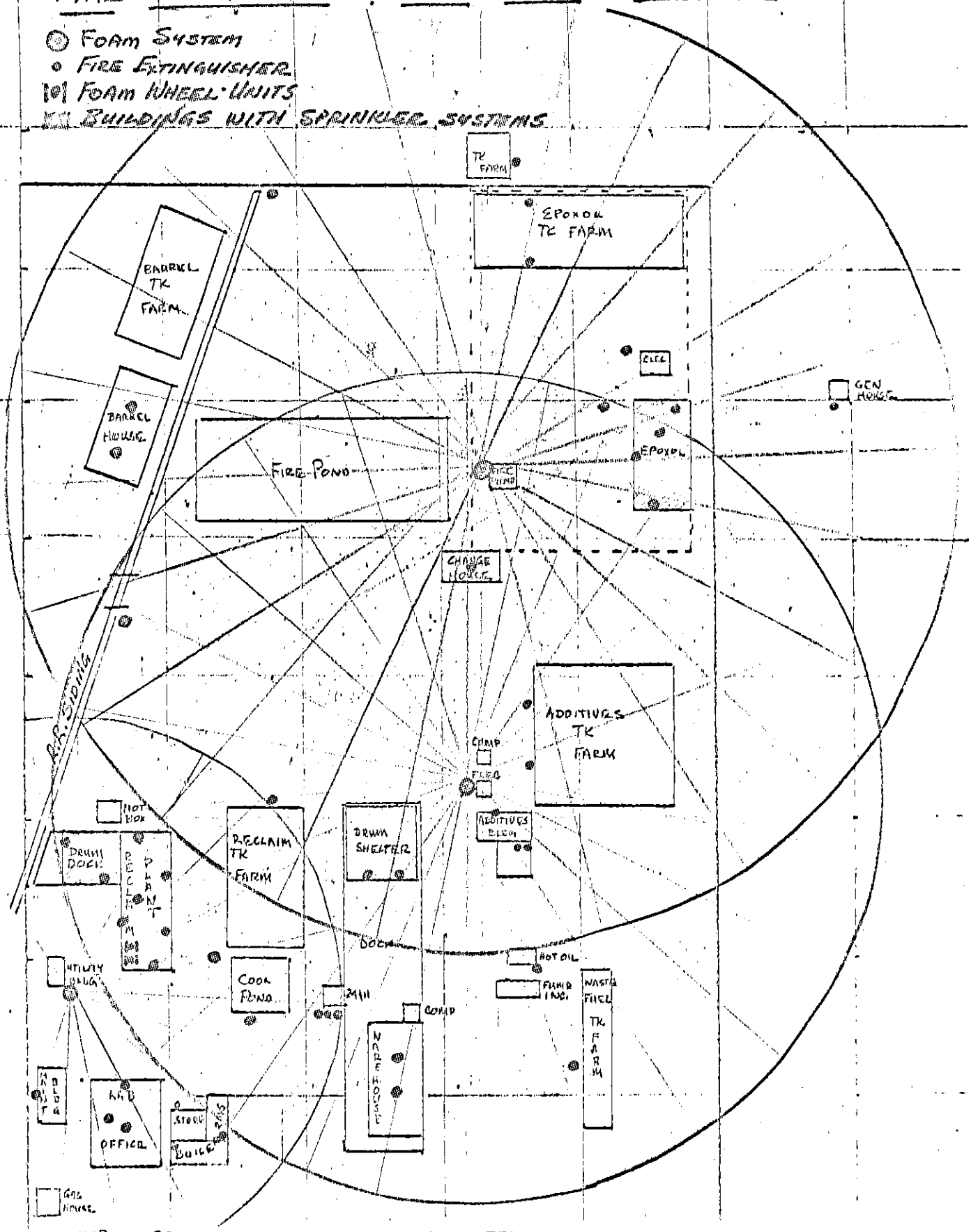


CONFIDENTIAL

FIGURE 7

FIRE EXTINGUISHER & FOAM SYSTEM LOCATIONS

- ◎ FOAM SYSTEM
- • FIRE EXTINGUISHER
- |o| FOAM WHEEL UNITS
- ▨ BUILDINGS WITH SPRINKLER SYSTEMS



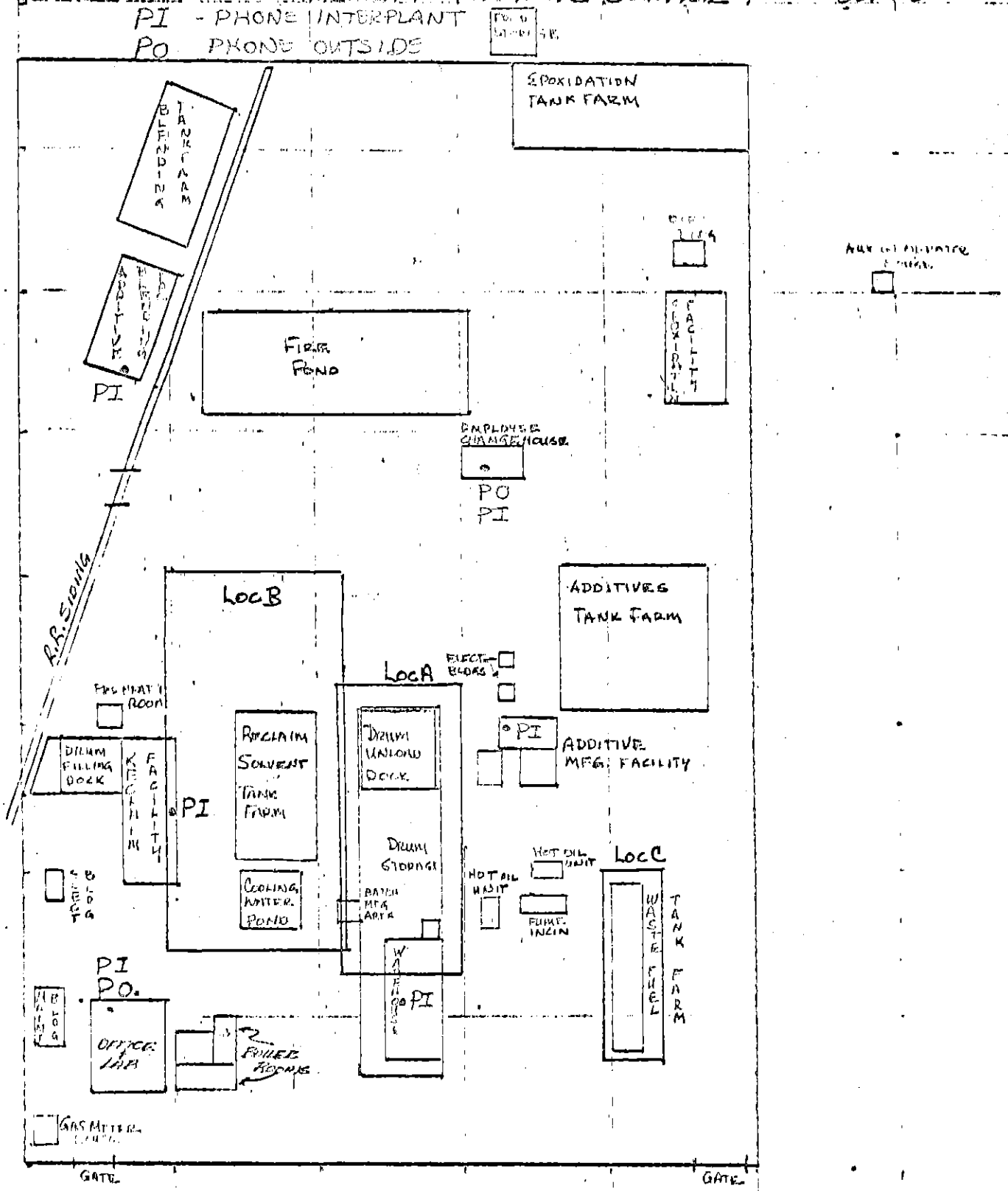
CONFIDENTIAL

FIGURE 8 - COMMUNICATIONS SYSTEM

AMERICAN CHEMICAL SERVICE, OCTFO

PI - PHONE INTERPLANT

PO PHONE OUTSIDE



COLLINS AVE

SCALE 1" = 100'

(8) Procedures

1. Specific isolated unloading areas are designated. They are ramps protected by concrete blocks. Pumps and unloading lines are shielded by concrete walls.

2. All tank farms are diked. Provision has been made to direct all spills into double decanter spill containment system. The area surrounding the hazardous waste handling facilities is graded into a surface run off system of catch basins and retention ponds. See (19)-10.

3. The waste handled is almost entirely non water miscible. Spills are minimized and promptly cleaned-up. Most material is handled in diked areas.

4. The waste handling systems do not involve any automatic control systems. Equipment consists of pumps, mixers, filters and manually operated valves. Power failures cause only a cessation of processing and do not result in any release. All loading, unloading and processing is operator attended.

5. Undue operator exposure is minimized by processing through closed piping and closed vessels. Operators are required to wear safety equipment.

(5) Precautions

A. Accidental ignition is prevented by adhereing to the principles of handling flammable material. No smoking, open flames or welding are allowed in processing and storage areas. Electrical equipment and wiring is explosion proof.

B. Extremely reactive materials are not accepted.

C. Using waste analysis data and past experience, American Chemical Service processes six million gallons per year of flammable hazardous waste. We have been pumping and distilling flammable liquids since 1936. Since 1968 we have been blending our distillation bottoms with other waste material and producing a burnable liquid. We employ three degreed chemists and two degreed engineers. We utilize basic chemistry, engineering, and many years of experience. We consider ourselves pioneers in our field. We do use technical reference material as a handling guide. Some of the reference materials we have on site are:

1. Manufacturing Chemist's Association Chemical Safety Data.
2. American Insurance Association - Chemical Hazards Bulletins.
3. U.S. Dept. of Labor - Material Safety Data Sheets - Form OSHA - 20.
4. "Dangerous Properties of Industrial Materials" by N.I. Sax.

(10) Traffic Pattern and Volume

Traffic patterns and volumes are indicated on (19)-10. Turns and stacking lanes are not appropriate. Access road surfacing, and load bearing capacity are indicated on (19)-10. There are no traffic control signals.

(11) Facility Location Information

1. Not applicable

2. Not applicable

3. American Chemical Service is not located with a 100-year floodplain. Maps are attached.

4. Not applicable

5. Not applicable

(12) - Personnel Training
264.16

A).(1) Facility personnel must successfully complete an instructional program and on-the-job training before assuming responsibilities for handling hazardous wastes.

(2) This program is directed by the emergency coordinator.

(3) As part of the instructional training program, the following items are explained to each employee by the emergency coordinator:
(i) Safety precautions;
(ii) Job descriptions outlining the methods for handling hazardous wastes where applicable;
(iii) Emergency equipment and its operation;
(iv) Monitoring equipment and its operation where applicable;
(v) Communications system;
(vi) Response to fires or explosions;
(vii) Response to ground water contamination; and
(viii) Shutdown of operations.

As part of the on-the-job training each employee is required to perform duties on the job where applicable as outlined in job descriptions under the direct supervision of the emergency coordinator.

New plant personnel are indoctrinated in the instructional program by the emergency coordinator. See part (3) of this section. In addition there is a training period (usually 2-3 weeks) where new personnel work directly with experienced personnel to aquire skills to handle the hazardous waste properly. At the end of that period the newly trained employee is required to perform duties on the job under the direct supervision of the emergency coordinator as outlined in the job descriptions.

B).Facility personnel have completed the training program.

C).Facility personnel have completed the annual review.

D).1,2,3,4,5 are maintained on file at our facility.

E).Training records are on file at our facility.

(13) Closure Plan - Amended 5-19-82

1. American Chemical Service is a growing diversified chemical processing and manufacturing company. Hazardous waste activity accounts for about 40% of its total business. With proper maintenance, its span of operation is indefinite.

2. The total storage capacity for crude materials (drums and tanks) for distillation and fuel blending is 363,500 gallons.

3. Steps to decontaminate facility

A. Pump contents of drums to bulk storage. Cut open drums not completely emptied. Dump solids into bins and mix with sand. Landfill sand mixture. Empty drums go to drum reconditioner. Wash pad with detergent 100 gallons needed. Landfill wash water.

B. Pump liquids from tanks into tank trucks and haul to waste fuel processor.

C. Flat bottomed tanks (123,124,125,126,200,201,202,203,204, 205,207,208) will contain solids. All other tanks are cone bottomed and will be essentially empty. Manheads from flat bottomed tanks would be removed. Solids would be shoveled into bins and mixed with sand.

D. Sand and solids would be hauled to the landfill. Typical analysis attached.

E. All tanks, piping, and pumps would be cleaned with high pressure water and detergent.

4. There are no plans to close plant. Its useful life is indefinite. If closure were necessary, completion time would be thirty days.

(14) Deed Notation

Since we do not currently, nor do we intend to use the land to manage hazadous waste we have not made any such notation on our deed.

(15) Closure Cost Estimate - Amended 5-19-82

1. Pump drum contents to bulk storage, 48 man hours.	$480
2. Cut open drums not emptied and dump solids into bins, 16 man hours.	$160
3. Mix solids with sand and haul to landfill 10% x 600 drums x 55gallons/drum x $.66.	$2200
4. Clean drum storage area, 8 man hours.	$80
5. Pump liquids from tanks to tank trucks 60 trucks x 2hours x $10/hour.	$1,200
6. Freight to waste fuel processor $10/hour x 10¢/gal. x 350,000 gallons.	$35,000
7. Charge from fuel processor 20¢/gal. x 350,000 gals.	$70,000
8. Remove manheads on flat bottomed tanks and remove solids, 400 man hours.	$4,000
9. Mix solids (13,500 gallons) with sand and haul to landfill 66¢ x 13,500 gallons.	$9,000
10. Cleaning tanks and piping $300/tank.	$6,300
11. Disposal of wash water at treatment plant 14¢/gal. x 20,000 gallons.	$2,800

Total cost for closure estimated @ $131,220. We have applied for closure insurance and expect to have it in force by 10-6-82. Separate financial requirements response letter sent to EPA 8-6-82.

(16) Post Closure Cost Estimate

If closure occurs, equipment will be cleaned. No post closure care will be required.

Hammond National Company

INSURANCE

HOWARD J. GESCHEIDLER, 1910-1961
WALTER A. MACNARY, 1929-1976
WILLIAM E. GESCHEIDLER, 1936-1975
ANTHONY D. BAKER, 1950-1981
HOWARD J. GESCHEIDLER, JR.
RONALD J. GESCHEIDLER
STEVE J. SVETIC
CLYDE E. RECTOR
LARRY C. THONE
ROBERT F. LUKES
FRED K. ROSECRANS
JOHN H. GESCHEIDLER

YOUR Independent Insurance AGENT "SERVES YOU FIRST"

5248 HOHMAN AVENUE
P.O. BOX 607
HAMMOND, INDIANA 46325

Telephones
HAMMOND - 931-4000
Chicago - 731-5040

August 4, 1982

Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: American Chemical Service, Inc.
Griffith, Indiana 46319

Gentlemen:

The Hammond National Company of Hammond, Indiana, is the agent of record for the American Chemical Service Company. We have been asked by the American Chemical Service to obtain closure insurance as well as an endorsement to our present liability policy in regards to sudden and accidental occurrence as per the EPA form in the Federal Register.

Our present policy does provide coverage for sudden and accidental occurrences. I have requested the United States Fidelity and Guaranty Company add your endorsement to our policy but was advised the USF&G would not do so at the present time since they were checking the DPA endorsement to be certain they were complying with the coverage required. I was told the USF&G will issue a separate policy for this coverage and before they will issue a policy their engineering department will make an inspection of the premises and operations to determine if the ACS qualifies. A formal application with supplemental information (12 pages) has been filed by the American Chemical Service and the engineer from the USF&G has completed his inspection and forwarded the report to the USF&G Baltimore, Maryland home office. I was told by the underwriter final approval may take thirty to sixty days.

I have searched all markets, both domestic and foreign, for closure insurance and found only one company, the St. Paul Surplus Lines Insurance Company, will be in the market for this insurance.

Continued.....

Hammond National Company
INSURANCE

HOWARD J. GESCHEIDLER, 1910-1961
WALTER A. MACNARY, 1929-1976
WILLIAM E. GESCHEIDLER, 1936-1975
ANTHONY D. BAKER, 1950-1981
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HAMMOND, INDIANA 46325

Telephones
HAMMOND - 931-4000
Chicago - 731-5040

The St. Paul Insurance Company is in the process of appointing agents in Chicago to handle this product. I was told by the manager of the St. Paul Insurance Company I would be contacted just as soon as an agent is appointed and I can then obtain this insurance coverage.

In view of the above, I am requesting an extension of time on behalf of the American Chemical Service so that the companies I have been negotiating with can produce the insurance coverage needed to comply with the EPA regulations. I have done everything possible to obtain this coverage and feel with a little time we can obtain the necessary insurance to comply with the EPA regulations.

Enclosed is a copy of our certificate of insurance and we hope to be in full compliance with the EPA regulations within the next sixty days.

Sincerely,

Steve J. Svetic
Vice President-Treasurer

SJS/md
enc.

(17) Insurance Requirement

Required liability insurance certificate sent to E.P.A. 8-6-82. It contains necessary coverage for sudden and accidental discharges. Insurer has promised additional hazardous waste endorsement by 10-6-82.

(18) Not applicable.

(20)-1 Storage of Containers of Hazardous Waste

264.175 Containment

Present area is a 4' raised concrete pad 56'x50' covered by a sheet metal roof. We propose to surround the pad with a 2" concrete curb to contain any leakage or spills. Pad will have centrally located sump to collect spills and provide means for pumping. Completion date 11-1-82.

Area is designed store up to 600-55 gallon drums (33000 gallons). The capacity of the curbed pad area will be 3500 gallons. The distance of the storage area from the closest property line is 220'. Refer to drawing #(19)-10. Only compatible wastes are stored in containers in this area.

(20)-2 Tank Storage for Hazardous Waste

1.&2. All storage tanks are of welded steel construction and are at least .25" thick. The materials stored cause little or no corrosion to steel. The tank thickness and construction is suitable to withstand the resulting static head involved. Special lining or corrosion resistance are not required for handling the type of hazardous waste we encounter. We have had over forty years experience in storing these types of materials.

(20)-2 Tank Storage for Hazardous Waste

5. All systems are operated manually and are monitored by operators.

6. Not Applicable

(20)-3,4,5 Not Applicable

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TANK NUMBER	DIMENSIONS DIAM. (ft.)	DIMENSIONS HT. (ft.)	CAPACITY (GALLONS)	SHELL THICKNESS (INCHES)
1A	6-6	11'	3,000	.250"
1B	6-6	13'	3,000	.250"
116	12'	13'	12,000	.250"
117	12'	13'	12,000	.250"
118	12'	13'	12,000	.250"
119	12'	13'	12,000	.250"
120	9'	13'	6,500	.250"
121	10'	19'	11,500	.250"
122	10'	19'	11,500	.250"
123	10'	33-6	20,000	.250"
124	10'	33-6	20,000	.250"
125	10'	33-6	20,000	.250"
126	10'	33-6	20,000	.250"
200	12'	28-6	24,000	.250"
201	12'	28-6	24,000	.250"
202	12'	30	25,000	.250"
203	10-6	28	18,000	.250"
204	10-6	28	18,000	.250"
205	11-6	32	25,000	.250"
207	10-6	28	18,000	.250"
208	10-6	23	15,000	.250"

GULF COAST LABORATORIES, INC.
2417 Bond St., Park Forest South, Illinois 60466
Phone (312) 534-5200
Phone (219) 885-7077

CONFIDENTIAL

ANALYTICAL REPORT
Sand, Solids Mixture

TO: American Chemical Service, Inc. DATE: January 28, 1982
P.O. Box 190
Griffith, Indiana 46319

RE: Waste Analysis
Resin Solids
Sample Date: 1/15/82
GCL# 24546

ATTN: Mr. Jim Tarpo

PARAMETERS	RESULTS		ILLINOIS LEACHATE	
Flash Point	Non-Flammable Solid			
Acidity	0.02	%		
pH (10% Solution)	6.9			
Total Solids	90.46	%		
Ash	86.58	%		
Total Cyanides	< 5	mg/kg		
Phenols	42	mg/kg		
Dissolved Sulfides	< 5	mg/kg		
Barium	60	mg/kg		
Cadmium	9	mg/kg		
Nickel	17	mg/kg		
Lead	2800	mg/kg	5	mg/kg
Selenium	< 0.5	mg/kg		
Silver	< 1.0	mg/kg		
Arsenic	< 0.5	mg/kg		
Chromium	840	mg/kg	1	mg/kg
Copper	130	mg/kg	4	mg/kg

Analyst _____ Date 1/28/82

Approved Donald Shipple

GULF COAST LABORATORIES, INC.
2417 Bond St., Park Forest South, Illinois 60466
Phone (312) 534-5200
Phone (219) 885-7077

CONFIDENTIAL

ANALYTICAL REPORT
Sand, Solids Mixture

TO: American Chemical Service, Inc.
P.O. Box 190
Griffith, Indiana 46319

ATTN: Mr. Jim Tarpo

DATE: January 28, 1982

RE: Federal Criteria Test
Resin Solids
Sample Date: 1/15/82
GCL# 24546

PARAMETERS	RESULTS		
pH		6.9	
Barium	<	10	mg/l
Cadmium	<	0.1	mg/l
Lead	<	0.5	mg/l
Selenium	<	0.1	mg/l
Silver	<	0.5	mg/l
Arsenic	<	0.5	mg/l
Chromium	<	0.5	mg/l
Mercury	<	0.02	mg/l

Analyst _____ Date 1/28/82

Approved

GULF COAST LABORATORIES, INC.
2417 Bond St., Park Forest South, Illinois 60466
Phone (312) 534-5200
Phone (219) 885-7077

CONFIDENTIAL

ANALYTICAL REPORT

Sand, Solids Mixture

TO: American Chemical Service, Inc.
P.O. Box 190
Griffith, Indiana 46319

DATE: January 28, 1982

RE: Waste Analysis
Resin Solids
Sample Date: 1/15/82
GCL# 24546

ATTN: Mr. Jim Tarpo

PARAMETERS	RESULTS		ILLINOIS LEACHATE
Mercury	< 0.5	mg/kg	
Zinc	40	mg/kg	

Analyst _____ Date 1/28/82

Approved Donald Smith

1224 SAMPLE NUMBER

L A B O R A T O R Y R E P O R T

DATE 5-21-82

SUPPLIER

DESCRIPTION STILL BOTTOMS

ORIGIN SOLVENT RECOVERY

QUANTITY AVAILABLE 5000 GAL/WK.

DATE RECEIVE

INSTRUCTIONS DAILY

COLOR BR

SP. GR.

ACIDITY

MOISTURE

SOL H_2SO_4

FLASH POINT

FLAMMABLE

5%	
10	
20	
30	
40	
50	
60	
70	
80	
90	
95	
Dry	
ASTM	
YIELD	

CRUDE PICKUP

PRICE QUOTED

DELIVERY

BTU VALUE 12,900 BTU/LB

CHLORIDE CONTENT NIL

27.76
26.49
1.27

11.7118
11.2815
.4303

6-38 SAMPLE NUMBER

L A B O R A T O R Y R E P O R T

DATE 3-21-50

SUPPLIER

DESCRIPTION TRICHLORETHYLENE

ORIGIN VAPOR DEGREASING

QUANITY AVAILABLE 6-7 DR/LC

DATE RECEIVE

INSTRUCTIONS WE ARE INTERESTED IN BUYING IF GOOD ENOUGH

CRUDE PICKUP

PRICE QUOTED

DELIVERY

BTU VALUE

CHLORIDE CONTENT

COLOR

SP. GR. 1.465 @ 20

ACIDITY

MOISTURE

SOL H_2SO_4

FLASH POINT

FLAMMABLE

BR	86
5%	86
10	86
20	86.5
30	86.5
40	86.5
50	86.5
60	87
70	87
80	88
90	90
95	
Dry	
ASTM	
YIELD	

771 SAMPLE NUMBER

LABORATORY REPORT

DATE 9-16-80

SUPPLIER

DESCRIPTION CRUDE L.T

ORIGIN LINE FLUSH + PAINT CLEANUP

QUANTITY AVAILABLE 50 DRUMS

DATE RECEIVE

INSTRUCTIONS

CRUDE PICKUP

PRICE QUOTED

DELIVERY

BTU VALUE

CHLORIDE CONTENT

COLOR

SP. GR. ✓ 0.832

ACIDITY

MOISTURE ✓ 1/16

SOL H_2SO_4 ✓ 65%

FLASH POINT

FLAMMABLE

BR	59
5%	60
10	62
20	62
30	63
40	64
50	65
60	67
70	80
80	106
90	121
95	130
Dry	
ASTM	
YIELD	

$20.00 DRUM

670 SAMPLE NUMBER

LABORATORY REPORT

DATE 6-27-80

SUPPLIER

DESCRIPTION C.T. THINNER

ORIGIN PERSIAN GULF

QUANTITY AVAILABLE 12-15,000 Gal/mo

DATE RECEIVE

INSTRUCTIONS

COLOR BR 92

SP. GR. 5% 110
10 117
20 130
30
40 137
50
60
70
80
90
95
Dry
ASTM
YIELD

ACIDITY

MOISTURE 1:1 Mix 48

SOL H_2SO_4 10%

FLASH POINT

FLAMMABLE

CRUDE PICKUP

PRICE QUOTED

DELIVERY

BTU VALUE

CHLORIDE CONTENT

500 ml 1 gl flask

1250

LABORATORY REPORT

DATE 3-2-79

SUPPLIED

DESCRIPTION INK WASH SOLV.

ORIGIN GRAVURE PRINTING

QUANTITY AVAILABLE 20-25 DR/MO.

DATE RECEIVE

INSTRUCTIONS WANT QUOTE ON DISPOSAL

CHARGE

YIELD

LOSS

RESIDUE

COLOR

SP. GR.

ACIDITY

MOISTURE 4% wet

SOL H_2SO_4

SOL H_2O

SOL DMS

PR	62
5%	65
10	67.5
20	68
30	69
40	71
50	73
60	74
70	75
80	76
90	
95	
Dry	
ASTM	
YIELD	

Acidity =

0.2 ml .1 N NaOH

25 ml Sample

COSTS	PER GALLON	PER POUND
PROCESSING		
FREIGHT IN		
FREIGHT OUT		
CONTAINER		
TOTAL		

Bad color

ADD PROFIT... SELLING PRICE

COST PLUS PROFIT

WE CAN OFFER BASIS FINISHED PRODUCT YIELD

WE CAN OFFER BASIS CRUDE FOB

694 SAMPLE NUMBER

L A B O R A T O R Y R E P O R T

DATE 6-27-50

SUPPLIER

DESCRIPTION CRUDE OIL

ORIGIN [illegible] MFG & CLEANING

QUANTITY AVAILABLE 20 CCC GAL/MO

DATE RECEIVE

INSTRUCTIONS CRUDE ON [illegible] 2 CC'S 2 LEADS 4. [illegible] 6 CCC DRY OIL

CRUDE PICKUP

PRICE QUOTED

DELIVERY

BTU VALUE

CHLORIDE CONTENT

COLOR

SP. GR.

ACIDITY

MOISTURE 1:1 Wet

SOL H_2SO_4 65%

FLASH POINT

FLAMMABLE

BR	78
5%	[illegible]
10	30
20	[illegible]
30	[illegible]
40	[illegible]
50	[illegible]
60	[illegible]
70	[illegible]
80	
90	
95	
Dry	
ASTM	
YIELD	

20-2---A

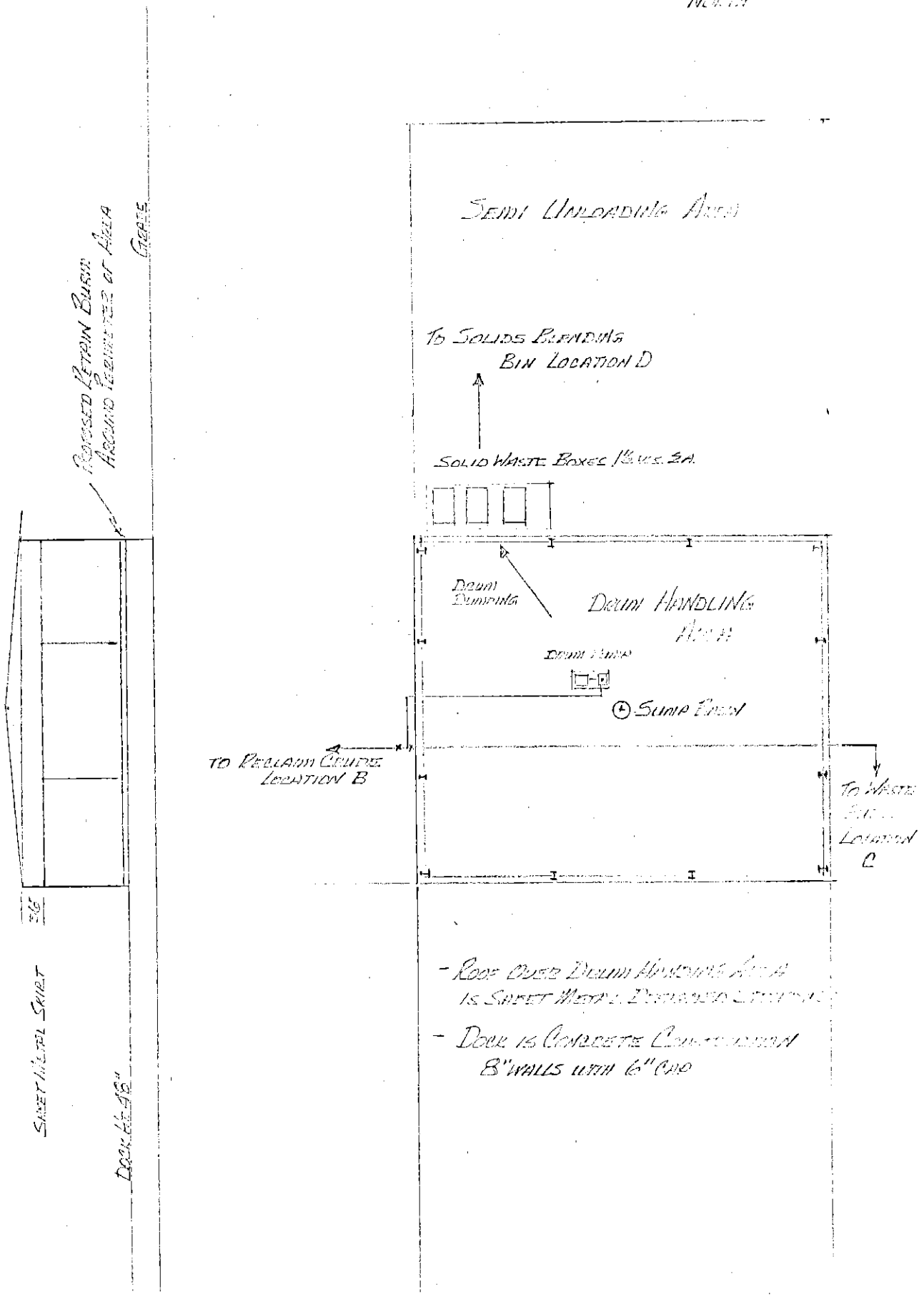
CONFIDENTIAL

Area 5

Drum Unloading Dock Location A

Scale 1"=20'

North



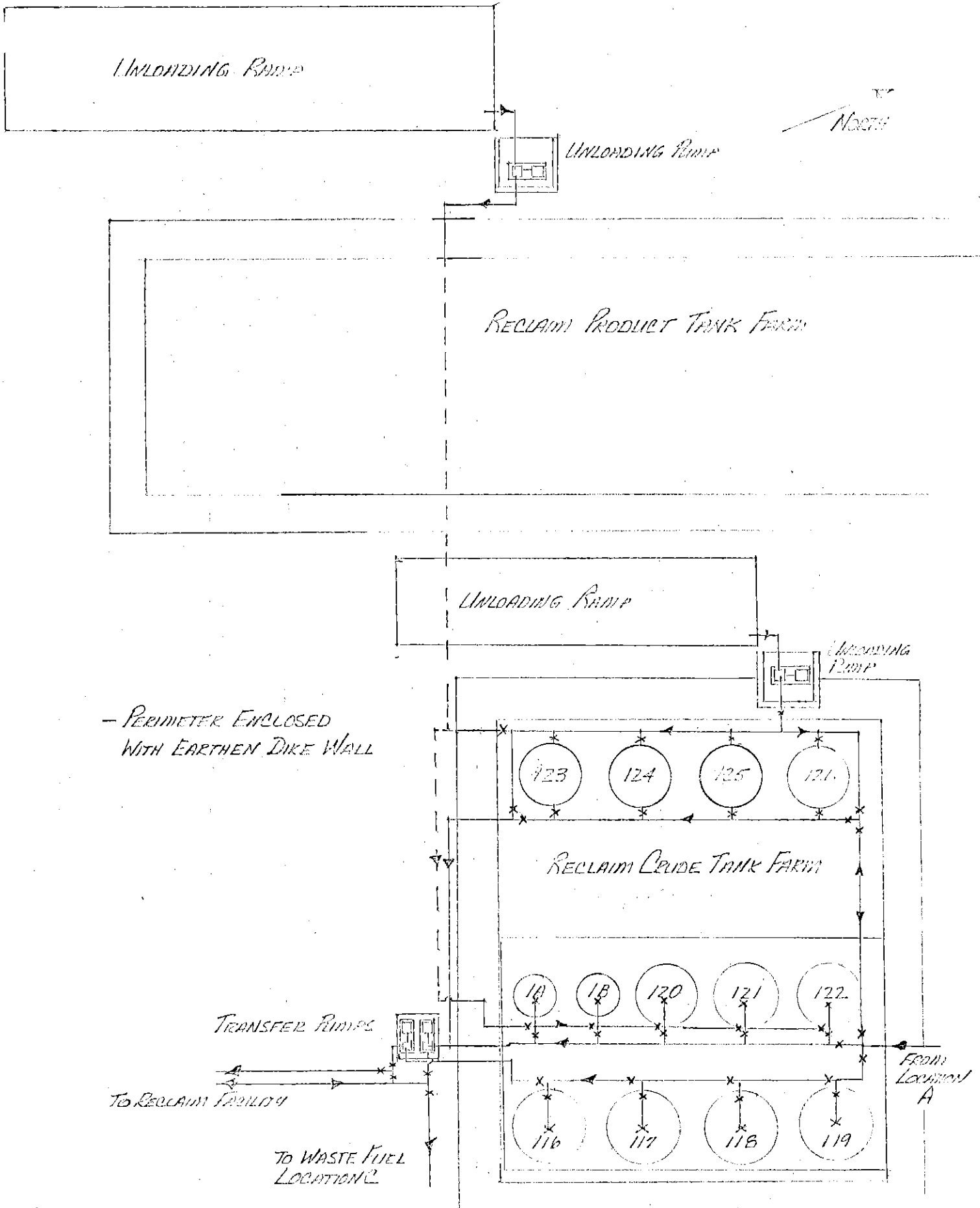
20-2-4B

CONFIDENTIAL

Aug 62

1 CLAIM CRUDE LOCATION B

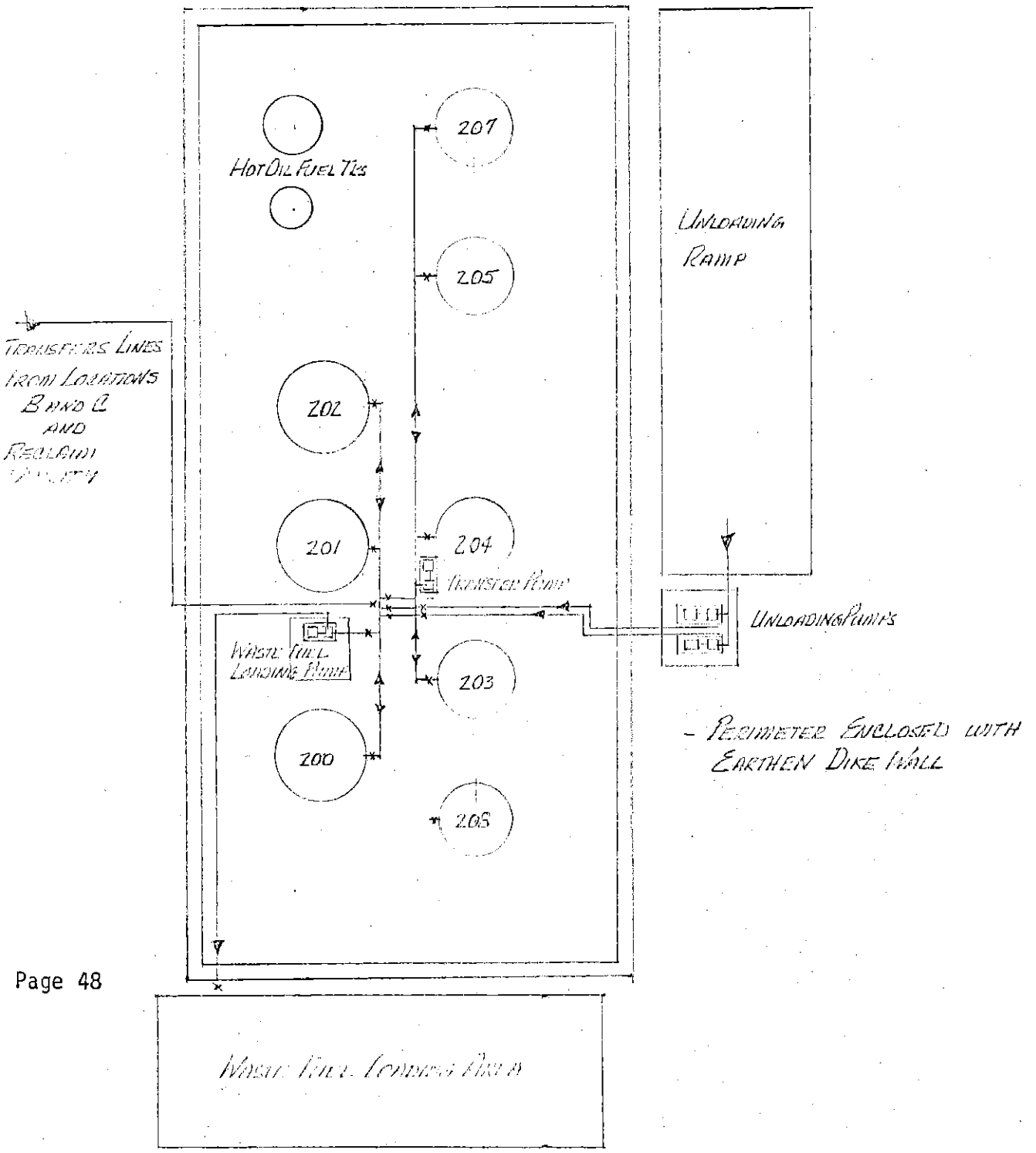
SCALE 1" = 20'



AUG 82

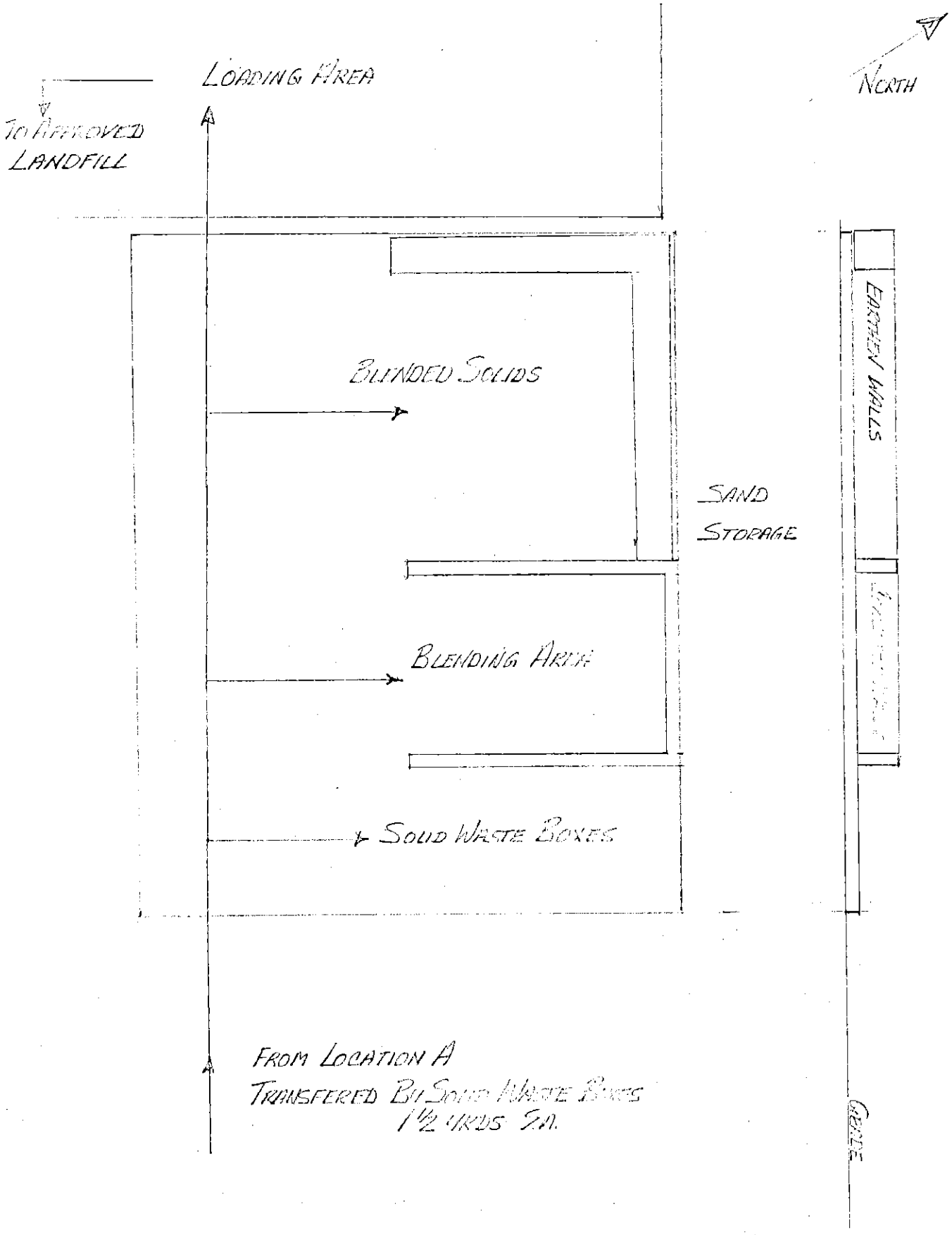
WASTE FUEL LOCATION C
SCALE 1" = 20'

NORTH



Solids Blending Bin Location D

Scale 1" = 10'



AMERICAN CHEMICAL SERVICE IND 016 360 265

CONTINGENCY PLAN AMENDED 8-16-85

I Description

American Chemical Service's business consists of Custom Chemical Manufacturing, solvent reclaiming, and processing of hazardous wastes. On site is the equipment to receive, process, and ship various solvents and chemicals in drums and bulk.

Figure 1 shows the property boundaries, adjacent highway, holding pond, tank area, and on-site buildings.

Figure 1 shows the three locations where hazardous materials are stored. Figures 2,3,4 Location A,B,C show detailed drawings of each location. A dike surrounds each fixed storage area.

Location A shown in Figures 1 and 2 is used for storage of 55 gallon drums. These drums contain crude solvents to be processed. Crude solvents are pumped to storage tanks in Location B and hazardous wastes are pumped to storage tanks in Location C. A maximum of 300 drums is stored in Location A. A curb surrounds the drum storage area.

Location B shown in Figures 1 and 3 is used for the storage of crude solvents to be reclaimed. Bulk shipments are unloaded with a pump at the western boundary. These solvents are processed in the reclaim facility shown in Figure 1.

Location C shown in Figures 1 and 4 is used for the storage and processing of hazardous waste. Bulk shipments are unloaded with a pump at the northern boundary. Outgoing shipments are pumped to a tank wagon spotted at the eastern boundary.

II Purpose and Implementation

The purpose of the contingency plan is to minimize hazards to human health or the environment from fires, explosions or spills of hazardous materials.

The emergency coordinator is notified for the following emergencies:

1.) A minor spill of hazardous material greater than five gallons outside a containment area.
2.) A major spill of hazardous material.
3.) A fire or explosion involving hazardous material.

Based on the severity, extent, nature and danger of the emergency to human health or the environment the emergency coordinator directs plant personnel to the correct response action by implementing the contingency plan.

III 1) Plant Personnel Response Action to Minor Spills

A minor spill is a small spill of hazardous material greater than 5 gallons outside the tank farms in Location B and C or outside the curbed area in the drum storage area in Location A.

- Notify, call or beep the emergency coordinator for a minor spill.
- Carry out immediately one or more of the following actions ordered by the emergency coordinator:
  - Call plant section on intercom that he ordered to a state of readiness (see page 16);
  - Sound Alarm (Dial 7); call plant section that he ordered to shutdown (see page 16-18).

In general the emergency coordinator orders shutdown of section within 50 feet of spill and state of readiness for rest of plant.

To carry out cleanup of a minor spill the emergency coordinator:

- Inspects spill area;
- Check human contact or injury and tells employee to:
  - Wash contacted area of body,
  - Change clothing,
  - Visit Hammond Clinic for injury or if the material was taken internally;
- Evacuates personnel at least 20 feet from the spill area upwind, if possible;
- Determines exact source (i.e. drum, tank, or tank wagon);
- Consults daily tank log, hazardous drum label, or tank wagon manifest to identify makeup of spill. (Materials are flammable liquids (D001,F003,F005) and spent liquid halogenated solvents (F001,F002.);
- Confirms that the spill is small in area, not moving, and no threat to areas around the spill or outside the plant;
- Tells personnel to:
  - Keep yard tractor, trucks, and cars at least 30 feet from spill,
  - Shutdown spark sources within 60 feet of spill (i.e. fume incinerator, hot oil heater),

- Place dry chemical engine 30 feet from spill,
- Place the barrel house portable pump 30 feet from spill,
- Wear a protective suit and breathing apparatus before going to the edge of the spill area,
- Pump the spill and any contaminated ground water to a storage tank by placing suction hose in the free liquid and the discharge hose to a storage tank in Location B or C (All hazardous wastes accepted at the plant are compatible),
- Pump contents of the drum, tank or tank wagon to a storage tank in Location B or C if container continues to leak:
- Remove pump and hoses to drum storage area in Location A,
- Transfer contaminated ground into openhead drums,
- Haul drums, shovels, and protective clothing to drum storage area,
- Check areas that were shutdown during cleanup (i.e. fume incinerator),
- Initiate corrective repairs to defective equipment that caused spill,
- Scrape shovels until clean (Put scrapings with contaminated ground in openheads),
- Flush pump and hoses with clean solvent (Pump solvent to a storage tank in Location B or C),
- Store contaminated ground and clothing in openhead drums in the drum storage area until it is hauled to secure landfill,
- Initiate repairs to defective equipment and containers that caused spill or isolate them from use,
- Report that the emergency equipment is ready for another emergency,
- Communicate all-clear signal to resume normal operations,

The emergency coordinator:

- Does not call the Regional Administrator, State, or local authorities since the spill was small and within the boundaies of the plant;

- Enters time, date, and details of spill in the operating record;

- Does not file a written report to the Regional Administrator since spill was small.

III 2) Plant Personnel Response Action to Major Spill of Hazardous Material

- Notify, call or beep the emergency coordinator for a major spill of hazardous material.

- Carry out immediately one or more of the following actions ordered by the emergency coordinator:

  - Call plant section on intercom that he ordered to a state of readiness (see page 16);

  - Sound alarm (Dial 7); call plant section that he ordered to shut down (see page 16-18).

In general the emergency coordinator orders shutdown of section within 50 feet of major spill and state of readiness for rest of plant.

To carry out the cleanup of a major spill the emergency coordinator:

- Inspects spill area;

- Checks human contact or injury and tells employee to:
  - Wash contacted area of body,
  - Change clothing,
  - Visit Hammond Clinic for injury or if material was taken internally;

- Evacuate personnel at least 40 feet from spill containment area upwind, if possible (Account for plant personnel);

- Determines exact source (i.e. tank or tank wagon)

- Consults daily tank log or tank wagon manifest to identify makeup of spill. (Materials are flammable liquids (D001,F003, F005) and spent liquid halogenated solvents (F001,F002). They require a protective suit and breathing apparatus for contact;

- Confirms that the spill is contained, stagnant; and no threat to areas outside the plant;

- Determines the final containment area if the spill is moving;

- Shuts off flow of water from holding pond to sewer if spill reaches pond via runoff system (Spill collects in the inlet section. The spill control plan shows that spills can be contained within the plant boundary);

·Calls the National Response Center (800-424-8802) and reports:

·James Murphy or other emergency coordinator and 219-924-4370
·American Chemical Service, Inc.
420 S. Colfax
Griffith, Indiana 46319
·Time and word "Spill"
·Makeup of spill and quantity (i.e. D001 and gallonage),
·Human contact or injury
·Hazards to human health are low since spill is contained within the plant boundary and protective gear is available.

·Notifies the Griffith Fire Department (924-3151) and the Indiana Response Center (317-633-0144) and gives the same information as before,

·Tells personnel to:

·Keep yard tractor, trucks, and cars a least 40 feet from spill,

·Shutdown spark sources within 60 feet of spill (i.e. fume incinerator and hot oil heater),

·Place a dry chemical engine 40 feet from spill area,

·String fire hose from Foam System F1, F2 or F3 to within 40 feet with the spray nozzle and foam container in place,

·Position the barrel house portable pump 40 feet from the spill upwind, if possible,

·Wear a protective suit and breathing apparatus before going to the edge of the spill area,

·Pump the spill and any contaminated ground water to a storage tank by placing the suction hose in the free liquid and the discharge hose to a storage tank in Location B or C. (All hazardous wastes accepted at the plant are compatible. Rarely are all storage tanks full.),

·Pump contents of drum, tank or tank wagon to a storage tank in Location B or C if container continues to leak;

·Skim spill from inlet section of holding pond to a storage tank, if applicable, and sample water left in holding pond (In general hazardous wastes accepted at the plant have a low solubility in water.),

- Use Mr. Frank vacuum truck if spill location is remote,
- Remove pumps and hoses to drum storage area in Location A,
- Rope off the area after free liquid is removed until ground cleanup begins,
- Transfer contaminated ground with a front end loader-backhoe or caterpillar tractor owned and operated by Wells Hauling and Excavating (219-924-8481 or 219-738-0712 beeper) into dump trucks owned and operated by Mr. Frank, Inc.(312-596-3377 or 312-785-7190),
- Check areas every hour that were shutdown during cleanup (i.e. fume incinerator),
- Initiate corrective repairs to defective equipment that caused spill or isolate it from use,
- Contact Mr. Frank, Inc. (312-596-3377) to obtain an Emergency Spills Permit with C.I.D. for the ground that was removed (see Mr. Frank letter dated July 24, 1985),
- Scrape bucket of backhoe and shovels until clean (Put scrapings in openheads and store in drum storage area until it is hauled to a secure landfill. Mr. Frank is approved to clean his own equipment.),
- Flush pump and hoses with clean solvent (Pump solvent to a storage tank in Location B or C.),
- Recoil fire hose and replace foam nozzle and foam container,
- Report that the emergency equipment is ready for another emergency,

The emergency coordinator:

- Calls the Regional Administrator (800-424-8802) and the Indiana Response Center (317-633-0144) that the plant is not storing incompatible wastes from the spill and that all emergency equipment is fit for its intended use;
- Gives all-clear signal to resume normal operations;
- Enters time, date, and details of spill in the operations record;
- Files a written report within 15 days to the Regional Administrator stating:
  - James Murphy - owner-operator
    1524 Heather Court
    Munster, Indiana 46321
    219-924-9835

·American Chemical Service, Inc. - facility
420 S. Colfax Avenue
Griffith, Indiana 46319
219-924-4370

·Date, Time and Spill,

·Human Contact or Injury

·Makeup and amount (i.e. D001 and gallons.)

·Hazards to human health were low since the spill was contained and protective gear was used,

·Injuries if any,

·Gallons of spill pumped to storage tanks and yards of ground removed from the spill area and location of landfill (The recovered liquid was used in normal processing since all wastes are compatible.).

III 3) Plant Personnel Response Actions to Fire or Explosions Involving Hazardous Material

·Notify, call or beep the emergency corrdinator for a fire or explosion onvolving hazardous material.

·Carry out immediately one or more of the following actions ordered by the emergency coordinator:

·Call plant section on intercom that he ordered to a state of readiness

·Sound alarm (Dial 7); call plant section that he ordered shutdown

·Sound alarm (Dial 7); call plant section that he ordered to evacuate.

In general the emergency coordinator orders:

·For small fires, (those that can be extinguished with hand-held extinguishers) shutdown of section within 100 feet of fire and state of readiness for rest of plant,

·For large fires or explosions, shutdown of all sections.

There is no local agency set up for an immediate response role. The emergency coordinator orders all actions.

For a Fire the emergency coordinator:

·Observes the fire and tanks, drums, or tank wagons near the fire;

·Evacuates personnel upwind at least 100 feet from large fires and 40 feet from other fires (Account for personnel);

·Checks human contact or injury and tells employee to:

·Wash contacted area of body,
·Change clothing,
·Visit Hammond Clinic for injury, or if material was taken internally, or if combustion gases were inhaled deeply;

·Determines the source (i.e. tank, drum, or tank wagon);

·Consults daily tank log, drum label, or tank wagon manifest to identify the material. (Materials are flammable liquids (D001,F003,F005) and spent liquid halogenated solvents (F001 F002). They require a protective suit and breathing apparatus for contact.);

·Checks daily log for amount and identity of material in tanks near the fire;

- Checks smoke from fire (Dense black smoke indicates high organic loading);

- Checks direction the smoke is heading;

- Checks if fire is heating a nearby tank;

- Checks if there is heavy venting from tank vent. (This condition is a potential explosion);

The emergency coordinator tells personnel to:

- Order tank wagons and box trailer trucks not involved in fire to move away or leave plant (Trucks must stay at least 100 feet from fire while driving out of plant.);

- Wear a protective suit and, if not upwind, a breathing apparatus when fighting fire;

- Put out a small fire with a hand-held fire extinguisher; stand upwind, aim nozzle at base of flame about 3 feet away (Fire extinguishers are readily available throughout the plant.);

- Put out a moderate fire with a dry chemical engine; haul it to within 40 feet of fire upwind, if possible, unwind hose to 20 feet, and aim nozzle at base of fire with a side motion. (See Figure 1 for engine location);

- For large fire in Location A use Foam System F2, F3;

- For large fire in Location B use Foam System F1, F2, F3;

- For large fire in Location C use Foam System F2 (See Figure 1 for location.);

- Set up foam container, nozzle, and hose about 70 feet from fire upwind, if possible;

- Turn on fire pump;

- Roll foam onto fire by hitting the ground in front of the fire or banking off a wall near the fire;

- Report if fire is spreading or abating;

- Shut off flow of water from holding pond to sewer if foam or spill has reached the inlet compartment of holding pond;

- Call Griffith Police Department (924-3141) in case of a large fire to block intersections at Colfax and Main, Colfax and Reder allowing only emergency vehicles to pass;

- Tell Griffith Police to evacuate areas of town if dense black smoke or vapor releases for D001, F003, F005 liquids are leaving boundary of plant (For spent liquid halogenated solvents (F001, F002) combustion gases are acidic and irritating. People inhaling them should seek medical attention.).

- Call Hammond Clinic (219-836-5800) that people from Griffith may require treatment for inhalation of acidic gases.

- Call Griffith Fire Department (924-3151) to report to plant gate (Plant personnel will meet them at gate and lead them to an area designated by the emergency coordinator. Foam is generally used to fight chemical fires. The town has conventional fighting equipment and can fight building fires, brush fires, etc. Additions of large amounts of water to a chemical fire usually spreads the fire since the fuel floats on water.);

- Call National Response Center (800-424-8802) and report:

  - James Murphy or other emergency coordinator at 219-924-4370
  - American Chemical Service, Inc.
    420 S. Colfax
    Griffith, Indiana 46319
  - Time and word "Fire",
  - Makeup of fire and quantity (i.e. D001 and gallonage),
  - Human contact or injury
  - For a small fire that hazards to human health are low since fire is being put out quickly and protective gear is available,
  - For a large fire that police are to evacuate areas downwind if there is dense black smoke; protective gear is used by contacted plant personnel when fighting fire; and liquid from spill and foam system is being contained within plant boundary;
  - For large fire (F001, F002 liquid) that combustion gases are acidic and irritating and evacuated people may require medical attention for inhalation;

- Draw back to a new fire line to protect other portions of the plant if the liquid and fire are spreading (Do not let fire jump the fighting line.);

- Check sections every hour that are shutdown during the fire (i.e. stills, additives, etc.);

- Determine when fire is out;

- Release Griffith Fire Department;

- Tell Griffith Police Department that the fire is out; to take down road blocks and to reinhabit evacuated areas when air is clear;

- Determine total contaminated area when fire is out;

- Check that foam liquid and spill from the fire is not moving and is contained;

- Check fire area frequently to make sure that it does not restart;

- Check shutdown section every hour after fire is out;

- Get portable pump from barrel house;

- Pump foam liquid and spill to a storage tank in Location B or C (All wastes accepted at the plant are compatible. Rarely are all storage tanks full.);

- Skim spill from inlet section of holding pond to a storage tank, if applicalble, and sample water left in holding pond (In general hazardous wastes accepted at the plant have a low water solubility.);

- Use Mr. Frank vacuum trucks for remote spill areas;

- Remove pump and hoses to drum storage area in Location A;

- Rope off area after free liquid is removed until ground cleanup begins;

- Transfer contaminated ground with a front end loader-backhoe or caterpillar tractor owned and operated by Wells Hauling and Excavating (219-924-8481 or 219-738-0712 beeper) into dump trucks owned and operated by Mr. Frank, Inc. (312-596-3377 or 312-785-7190);

- Check shutdown areas every hour during cleanup;

- Initiate corrective repairs to defective equipment that caused fire;

- Contact Mr. Frank, Inc. (312-596-3377) to obtain an Emergency Spills Permit with C.I.D for the ground that was removed (See Mr. Frank letter dated July 24, 1985);

- Scrape bucket of backhoe and shovels until clean (Put scrapings in openheads and store in drum storage area until it is hauled to a secure landfill. Mr. Frank is approved to clean his own equipment.);

- Flush pump and hoses with clean solvent (Pump solvent to a storage tank in Location B or C.);

- Recoil fire hose; put back foam nozzle and foam container; and check that there are enough foam containers to fight another fire;

- Replace or recharge dry chemical engines and fire extinguishers that were used;

- Report that the emergency equipment is ready for another emergency;

The emergency coordinator:

- Calls the Regional Administrator (800-424-8802) and the Indiana Response Center (317-633-0144) and reports that the plant is not storing imcompatible waste from the fire and that all equipment is fit for its intended use;

- Gives the all clear signal to resume normal operations in other sections of plant;

- Does not permit startup of section affected by fire until all equipment is fixed or isolated from use;

- Enters time, date, and details of fire in operating record;

- Files a written report within 15 days to the Regional Administrator stating:

  - James Murphy - owner-operator
    1524 Heather Court
    Munster, Indiana 46321

  - American Chemical Service, Inc. - facility
    420 South Colfax
    Griffith, Indiana 46319
    219-924-4370

  - Date, time, and word "Fire",

  - Makeup of fire and quantity (i.e. D001 and gallons involved in fire.),

  - Human contact or injury,

  - For a small fire that hazards to human health were low since fire was put out quickly and protective gear was used for contact,

  - For a large fire that police evacuated areas downwind if there was dense black smoke; protective gear was used by contacted personnel; and liquid left from the fire and foam system was contained within the plant boundary,

- For a large fire (with F001, F002 liquids) that combustion gases were acidic and irritating; and evacuated people were treated for inhalation at hospitals, if applicable,

- Gallons of foam liquid and spill liquid recovered, yards of contaminated ground removed, and location of landfill, (The recovered liquid was used in normal processing since all wastes are compatible.).

State of Readiness

- Prepare for immediate shutdown,
- Continue running operations already started,
- Do not begin any new charges, reactions, loadings, unloadings, or startups,
- Continue state of readiness until all-clear signal is given.

Shutdown Stills

- Turn off steam to heating coils on stills,
- Stop pumping or drumming and close appropriate valves,
- Stop vacuum pumps,
- Break all electrical mains except on cooling water pump and deep well pump,
- Report to the emergency coordinator for further instructions.

Shutdown Unloading and Loading at Location A

- Stop unloading drums in box trailers,
- Be ready to move drum trailer truck immediately,
- Stop pumping drums and close appropriate valves,
- Break all electrical mains,
- Report to emergency coordinator for further instructions.

Shutdown of Tank Wagon Loading and Unloading at Location B and C

- Stop loading and unloading tank wagons and close appropriate valves,
- Disconnect hoses to tank wagons,
- Be ready to move tank wagons immediately,
- Break all electrical mains,
- Report to emergency coordinator for further instructions.

Shutdown of Additives

- Shutdown hot oil heater,
- Shutdown fume incinerator,
- Stop loading and unloading tank wagons and pumping operations and close appropriate valves,
- Be ready to move tank wagons immediately,
- Break all electrical mains except on deep well pump,
- Report to emergency coordinator for further instructions.

Shutdown of Epoxol

- Turn off steam to evaporator, wash tanks and reactor,
- Stop loading and unloading box trailers and tank wagons and close appropriate valves,
- Be ready to move trucks immediately,
- Stop pumping and close appropriate valves,
- Stop vacuum pump,
- Break all electrical mains except on cooling tower recirculating pump, fan, and deep well pump,
- Keep full cooling on reactor,
- Report to emergency coordinator for further instructions.

Shutdown of Barrel House

- Stop loading and unloading box trailers, tank cars, and tank wagons and close appropriate valves,
- Be ready to move trucks immediately,
- Stop drumming and pumping operations and close appropriate valves,
- Turn off steam to tank cars if heating,
- Break all electrical mains,
- Report to emergency coordinator for further instructions.

SUPLEMENTARY INFORMATION REQUIRED (40 R CFR & 124.3)
American Chemical Service, Inc.
IND 016360265

1.& 2. 264.13 requires that analytical data must be gathered to treat store, or dispose of the waste in accordance with requirements etc. Treatment of the waste involves producing a low cost carbon source for blast furnace injection. The final specifications of the product and the generator waste variability determine the analytical frequency and particular criteria.

The parameters listed in our waste analysis plan are those required to produce a specification product. It is not within the scope of the regulations to determine whether or not this is sufficient data; only that the data allows proper treatment of the waste.

3. Reactivity and blendability are determined by taking a portion of the test sample and mixing it with an equal portion of a known product composite. The temperature of the solution is carefully measured during the mixing to determine if any rise above ambient is detected. Also, the presence of any gas evolution is noted. The solution is then passed through 800 micron screen to determine whether or not there has been any growth of particle size. Temperature rise, gas evolution, or particle size increase may be a cause for rejection. Distillation yield, 50 or 100 ml of sample is measured into a standard ASTM distillation flask. The sample is heated and distillate recovered. Heating is continued until the flask residue either increases in viscosity or exhibits signs of decomposition. At that point heating is stopped and the distillate is measured as a percent of the original sample.

4. Every shipment is sampled and examined visually by a chemist or supervisor. This insures that we are getting pumpable liquid organics. Customers tend to generate the same types of waste for many years. Changes in component concentrations have no affect on our end product. Customers are required to notify us when any change is made in process generating the waste.

5. All wastes are assumed to be ignitable. Areas where they are handled meet the criteria for low flash materials. (See page 26 of permit application) No reactive wastes are accepted. 264.13 (b) (6) refers to 264.17 which was previously discussed and 264.341 which refers to incinerators.

6. 264.171 Containers are inspected as they are unloaded from trucks. Any that appear to be severely rusted or weak are transferred to reconditioned DOT 17E class drums.
264.172 All waste is stored in drums of suitable construction or lining so as to insure containment in the drum.

7. 264.175 (b) (4) The entire drum storage area is a raised pad four feet above ground level. Run on from the surrounding area is not possible.

8. 264.175 (b) (2) The entire base is sloped toward the center sump. The area is monitored daily for leaking containers and any accumulation in the sump. The area is covered by a roof to prevent excessive precipitation from accumulating.

9. 264.176 (c) The storage area is designed to store containers of free liquids: It includes the necessary containment system required in 264.175 (b) (1) the base is concrete free of cracks and gaps (2) the base is sloped (3) the area is surrounded by a concrete curb to contain 10% of the volume of the containers. (4) Run on is not possible because the entire pad is raised. (5) Material that accumulates in the sump is dealt with so as to prevent overflow of the collection system.

10. 264.191 (a) On page 35, (20) -2 "Tank storage for Hazardous Waste" and the table on page 36 show the description and data for the storage tanks. The maximum specific gravity of the waste placed in the tanks is 1.3. This conforms with American Petroleum Institute API-650.
264.192 (a) No corrosive incoming hazardous wastes are accepted at the facility.
264.192 (b) (1) All tanks are filled manually using a counter-weight float type gauge with personnel continually watching the tanks.
264.198 (a) (2) The ignitable waste is stored in such a way that it is protected ~~form~~ FROM any material or condition which may cause it to ignite. See "Security Procedures", page 6, inspection procedures on page 8 and 9, "Safety Precautions" (1) and (4) on page 2 of Personnel Training 264.16. All motors are explosion proof Class I Group D and are installed electrically according to National Fire Code Vol. 6, Chapter 5, Class I Group D. Fill lines to the tanks are installed as near as possible to the bottom of the tank to prevent static ignition.

264.198 (b) The hazardous waste portion of the facility complies with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's Flammable and Combustible Liquid Code for Class I liquids.
264.199 This article applies to incompatible wastes which are not handled at the facility.

11. The wastes stored at our facility are compatible. We have been blending these wastes for fifteen years. It is our opinion that the "American Chemical test" for blendability and reactivity provides the documentation required in 264.17 (c) The facility, as described by those portions of the plant used to treat or store waste, does not contain incompatible hazardous waste. There is no interconnecting piping between that facility and other manufacturing areas of the plant.

12. The checklist and maintenance action sheets are attached.

13. The inspection log is attached.

14. 122.25 (a) (8) (i) There are four unloading areas for hazardous as shown in Figure (19)-(10). More detailed drawings of each location are as follows:
1.) Semi unloading area for hazardous waste in drums is shown at Location A on page 46.
2.) Two unloading ramps for hazardous waste in tank wagons at Location B are shown on page 47.
3.) Unloading ramp for hazardous waste in tank wagons at Location C is shown on page 48.

    At Location A procedures outlined on page 19 of Personnel Training 264.16 are followed to prevent hazards in unloading drums of hazardous wastes.

    At Location B both unloading pumps are installed on raised concrete pads. One foot high concrete walls on three sides protect the pumps and piping, and contain any minor spills from unloading hoses. The ramps are slpped to insure complete unloading of tank wagons. Pump motors are explosion proof Class I Group D and are installed electrically according to National Fire Code, Vol. 6 Chapter 5, Class I Group D. Procedures outlined on page 16 of Personnel Training 264.16 are followed to prevent hazards in unloading tank wagons.

    At Location C both unloading pumps are located on a raised

15. American Chemical Service has 25 to 30 employees. The contingency plan is implemented at the discretion of the emergency coordinator who is also the training director. The basic criteria for implementation are as follows:

    1.) A spill or release of hazardous waste which contacts or will eventually contact people, land or water beyond the fenced portion of the facility. The cause would probably be an explosion which released chemicals beyond the boundary of the plant.
    2.) A potential release or spill which appears imminent due to an uncontrollable source such as a bomb threat or fire in another part of the facility not related to the hazardous waste portion.

16. Job titles and duties for each position relating to hazardous waste management are listed in Personnel Training 264.16. Employees filling each position are also included at the end of Personnel Training 264.16.

17. On page 28 Paragraph D 1,2,3,4,5 refers to the documents and records that are maintained at the facility as listed in 264.16 (d) (1) (2) (3) (4).

18. The training dirctor's qualifications are as follows:

    1.) Masters Degree in Chemical Engineering from Massachusetts Institute of Technology.
    2.) 12 years experience at American Chemical Service, which includes the distillation of chemical solvents, reactions of chemical compounds, and the handling of hazardous wastes both in drums and bulk. The training director has on the job experience and has supervised personnel in all areas listed.

19. The closure plan provides for the removal of all waste stored at the plant. It also describes the steps needed to decontaminate the facility. Upon its completion there would be no further need to monitor the environment around the remaining facility.

20. Although there is no schedule for partial, or final closure, it is possible that some external act (fire, change in business conditions, change in government regulations) could cause closure. In that case the closure plan would be activated using the money in trust.

#12 CHECKLIST AND MAINTENANCE ACTION SHEETS

RECLAIMING

- Cooling Tower Treatment

- Lub System Grease

- Check Oil Levels:

    1.) 3 LaBour Still Product Pumps
    2.) Sludge Pump Centrifugal
    3.) Agitators #9, #16, #101 & #102
    4.) Cooling Tower
    5.) Pump Speed Reducers
        - 7½ H.P. Product Loading Pump
        - 5H.P. Viking Sludge Pump
        - 5H.P. Viking Charge Pump
        - 5H.P. Crude Unload Pump
        - 5H.P. Product Loading Pump (Rack)
        - 5H.P. S.S. Transfer Pump
        - 5H.P. Product Loading Pump (TK Farm)

- Grease:

    1.) Heater Drive
    2.) General Inside & Outside
    3.) Every Monday Morning Cooling Tower Motor

- Check:

    1.) Deluge Valve Control
    2.) Lub System Record
    3.) Screens on Cooling Tower
    4.) Nitrogen Flow to Cooling Tower Motor

- Inspection:

    1.) Bump & Drain Fire Pump
    2.) Check Hoses, Covers, & Nozzle & Foam 5's
    3.) Pump House & Electrical Rooms
    4.) Low Charge on Hand Extinguishers and Covers
    5.) Steam & Condensate Leaks
    6.) Material Piping Leaks
    7.) Packing & Seal Leaks
    8.) Air Pressure on Deep Well Tanks (should read 30psi when empty)
    9.) Storage & Process Tanks for Leaks
    10.) Condition of Dike Walls

- Complete Inspection Log

GENERAL

- Drain off water on instrument Air Compressor & Clear Dryer Trap Strainer

- Check Dryer Suction Pressure Gauge (in green)

- Check Oil Levels:

    1.) Instrument Air Compressor (2)
    (change oil every 6 months)
    2.) #24 Agitator & #20 Agitator
    3.) Pump Speed Reducers
    - 5H.P. @ #11
    - 5H.P. @ #25
    - 7½H.P. @ Rock Drum Pump
    - 5H.P. Waste Fuel Load
    - 5H.P. Waste Fuel Unload
    - 10H.P. Waste Fuel Unload
    - 10H.P. Waste Fuel Transfer
    - 25H.P. Gorator
    - 5H.P. Tuthill Pump @ #20

- Grease:

    1.) Air Compressors
    2.) Waste Fuel Area
    3.) #24 Area
    4.) Dock Area

- Inspections:

    1.) Low Charge on Hand Fire Extinguishers
    2.) Extinguisher Covers
    3.) Header Steam & Condensate Leaks
    4.) Header Material Piping Leaks
    5.) Packing & Seal Leaks
    6.) Waste Fuel Tank Leaks
    7.) Condition of Waste Fuel Dike Walls
    8.) Nitrogen Charge & Condition of (3) Dry Chemical
    Extinguishers in Plant

- Complete Inspection Log

CONFIDENTIAL

Maintenance Action

Date	Description of Problem & Location	Date Fixed	Initial
5-20-	~~Prod. Pump Reclaim. 1st Rack. Lkg.~~	5-21	~~BV~~
5-25-	~~Cooling Tower Motor~~	5-21	~~BV~~
5-25-	~~24 Water #2 Still Bottom~~	5-26	~~BV~~
6-1	~~#1 Vac Pump~~	6-1	~~BV-JS~~
6-7	~~#3 Still Pump~~	6-7	~~BV-JS~~
6-8	~~Sludge Pump Laundry~~	6-8	~~BV~~
6-8	~~Fuel Line Leaking N.S Boiler Rm~~	6-10	~~BV~~
6-16	~~Cond Leak #1 Still~~	6-16	~~BV~~
7-8	~~Fresh Water Deep Well~~ Kicking Out	7-8	~~DM~~
7-9	~~24 Water #2 Still Leaks~~	7-9	~~BV~~
8-6	~~Relocated 4 24 Waters #3 Still~~	8-6	~~BV~~
8-13	~~24 Centrif. Pump Not Working~~	8-14	~~BV~~
9-28	~~#3 Still Pump Drippings~~	9-28	~~BV-FC~~
9-30	~~104 Ht Conduit Bro on off~~	9-30	~~JS~~
10-8	~~Packing Loading Pump Reclaim~~	10-8	~~BV~~
10-13	~~Steam Reg. #2 Still~~	10-14	~~BV~~
10-18	~~#2 Still Pump Leaking~~	10-18	~~BV~~
10-18	~~South Sludge Pump~~	10-18	~~BV~~
10-26	~~Oil Seal Leaking N. Sludge Pump~~	10-26	
11-3	~~4 Light Bulbs Control Panel~~	11-3	~~DM~~
11-12	~~Ball Values - Red. Gray Line~~	11-12	~~DM~~
1-83	~~Cond. Pot Trap.~~	1-6	~~DM~~
1-18-83	~~#1 Electric Leaking (Coils)~~	1-18	~~BV~~
2-23-83	~~Steam Leak 3/8 Valve at Trailer~~	2-23	~~BV~~
3-15-83	~~#2 Vac. Pump Leaking~~	3-15-	~~BV~~
3-21-83	~~#1 Prod Pump Seal Leaking~~	3-24	~~BV~~

Operator - Routine procedures

c) Still startup
Stills are run at atmospheric or vacuum conditions. At the atmospheric condition the startup procedure is as follows:

1) The operator checks that the atmospheric vent valve on the still is open.
2) The operator sets the vent float in case the still later bumps during heatup. This device prevents the contents of the still from foaming out of the still during the run.
3) The operator closes the valve on the vacuum line to the still.
4) The operator records the time and temperature of the pot, vapor, and the cooling water on the condenser outlet.
5) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig usually. Runs of crude methylene chloride, perchlor, and trichlor require initial pressure settings of 30 psig.
6) The operator monitors the still pot temperature. At 120-150F solvents usually begin to vaporize from crude in the still. The vapors pass to the condensor where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still.
7) The operator turns on the product pump when the distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.
8) The operator records the time and temperature when the still starts to distill.

At the vacuum condition the startup procedure is as follows:

1) The operator closes the atmospheric vent valve on the still.
2) The operator opens the valve on the vacuum line to the still.
3) The operator sets the vacuum controls on 30(no vacuum).
4) The operator turns on the vacuum pump and sets the seal water flow at 5 gallons per minute or 5 psig on gauge.
5) The operator slowly adjusts the vacuum controller to a setting of 15.
6) The operator records the time and temperatures of the pot, vapor, and cooling water on the condenser outlet.
7) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig.
8) The operator monitors the still pot temperature. At 110-130F solvents usually begin to vaporize from the crude in the still. The vapors pass to the condenser where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still. If the material in the sight glass is dirty, the operator turns off steam to the heating coil and sets the vacuum controller to 30. He opens the atmospheric vent on the still after hooking up the nitrogen purge system to the vent.

concrete pad. Two large concrete blocks on the lower east end of the ramp prevent tank wagons from backing into the lines and pumps. The ramp is sloped to insure complete unloading of the tank wagons. Pump motors are explosion proof Class I Group D and are installed electrically according to National Fire Code Vol 6 Chapter 5, Class I Group D. Procedures outlined on page 16 of Personnel Training 264.16 are followed to prevent hazards in unloading tank wagons.

122.25 (a) (8) (ii) - Lacation A is a 4' raised concrete pad covered by a sheet metal roof. The pad is surrounded by a 2" concrete curb to contain any leakage or spills. In the center is a sump which provides a means of collecting spills. Locations B and C tank farms are diked. The area surrounding the hazardous waste handling facilities is graded into a surface runoff system of catch basins and retention ponds. See Fig (19)-(10).

122.25 (a) (8) (iii) The hazardous waste is almost entirely non water miscible. It is handled in diked or curbed areas. In case of spills outside a diked area the waste is collected in catch basins as described in 122.25 (a) (8) (ii). The emergency coordinator is notified when there is any spills. He follows procedures outlined on page 17 (IV), (6) to prevent contamination of water supplies.

122.25 (a) (8) (iv) The waste handling systems do not involve any automatic control systems. Equipment consists basically of pumps and manually operated valves. Power failures cause only a cessation of processing and do not result in any release. All loading, unloading, and processing is operator attended. In case of power failure, personnel are instructed to close valves on all storage tank and tank wagons. All electrical equipment has to be manually restarted after a power failure. In case of equipment failure, personnel are instructed to turn off the equipment electrically, to close valves on storage tanks or tank wagons, and to notify the emergency coordinator.

122.25 (a) (8)(v) Undue operator exposure is minimized by processing through closed piping and closed vessels. Operators are required to wear safety equipment such as hard hats, safety glasses, and gloves. Other safety precautions are outlined in Personnel Training 264.16 page 2. If direct contact with the waste is possible the procedure outlined in Personnel Training 264.16 page (28),(f) is followed.

3) Tractor driver

Some shipments of drums of hazardous waste arrive in trailers which are not the same height as the raised pad at Location A. The tractor driver unloads the drums form the trailer and hauls them to the raised pad.

The tractor driver also hauls the bins containing solid material from drums at Location A to the solids blending bin a Location D (See Figure 1).
Routine procedure are as follows:

a) Unloading trailers of hazardous waste with the tractor.

b) Transfer of bins from Location A to Location D.
Detailed procedures for (a) and (b) are attached.

Tractor driver - Routine procedures

b) Transfer of bins from Location A to Location D.

Bins are filled by the unloader with solid waste from drums at Location A. The supervisor instructs the tractor driver to haul the full bins to the blending bin at Location D. The procedure is as follows:

1) The tractor driver checks the level in the bin, which should be about 4 to 6 inches from the top.

2) The tractor driver hauls the bin with the forks of the tractor to the solids blending bin at Location D at a very slow speed.

3) The tractor driver positions the bin over the diked area about 4 feet off the ground tilting the bin slightly forward.

4) The tractor driver pulls the lever on the bin causing it to dump its contents into the sand dike.

5) The tractor driver resets the bin to the upright locked position.

6) The tractor driver returns the empty bin to Location A.

c) Pumping hazadous waste in drums at Location A to storage tanks. A pump centrally located on the raised pad at Location A is used to pump the liquid in the drums to storage tanks in Location B or C. Figures 2,4, and 5 show the pump, lines, tanks, and valves. The procedure for pumping the liquid in the drums is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in specified drums to a designated storage tank.
2) The unloader measures the void space in inches on the designated tank to check if the tank will hold the gallons of liquid in the drums. Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader closes the valve on the discharge of the pump at Location A.
4) The unloader walks the line from the drum storage area to the storage tank, opening the proper valves and closing unused valves attached to the line.
5) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
6) The unloader opens the valve on the storage tank.
7) The unloader slowly loosens the bung on the first drum.
8) The unloader places the charge pipe into the first drum with the valve on the charge pipe closed.
9) The unloader opens the valve on the discharge of the pump.
10) The unloader starts the pump.
11) The unloader opens the valve on the charge pipe.
12) The unloader opens the air bleeder valve on the pump until air is evacuated from the system.
13) The unloader closes the valve on the charge pipe after emptying each drum so that air will not be drawn into the system.
14) The unloader closes the valve on the charge pipe and then turns off the pump after two drums are pumped.
15) The unloader walks the line looking for leaks, and he also checks the pin to make sure that the material is being pumped to the correct tank.
16) The unloader continues to pump the specified drums.
17) The unloader closes the valve on the charge pipe after the last drum is emptied.
18) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
19) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.
20) The unloader rolls the empty drums to a trailer spotted at Location A.
21) If the filter on the suction side of the drum pump should plug during pumping the following steps are taken:
    i) The unloader removes the charge pipe from the drum allowing air to enter the filter to clean the liquid from the filter body.
    ii) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
    iii) The unloader opens the lid and cleans the filter dumping its contents into an openhead drum.
    iv) The unloader replaces the lid.
    v) The unloader places the charge pipe into a drum and closes

2) Unloaders

Unloaders pump hazardous waste in tank wagons at unloading ramps in Location B and C. (See Figure 1) to storage tanks. They also unload drums of hazardous waste from box trailers to Location A (See Figure 1) and pump their contents to storage tanks in Location B or C.

Routine procedures are as follows:

a) Unloading tank wagons of hazardous waste.

b) Unloading box trailers of hazardous waste at Location A.

c) Pumping hazardous waste in drums at Location A to storage tanks.

d) Changing viscous liquids in drums to small blending tank at Location A.

e) Pumping liquids in small blending tank at Location A to storage tanks at Location C.

f) Transferring solid material remaining in drums after pumping at Location A to bins.

Detailed procedures for steps (a) through (f) are attached.

Unloader - Routine procedures

f) Transferring solid material remaining in drums after pumping at Location A to bins.
Bins are spotted at the southwest corner of the raised pad at Location A (See Figure 5). Solids remaining in the drums are dumped into these bins. The procedure is as follows:

1) The unloader removes the lid of the drum. If it is a tighthead drum, he uses a drum cutter to remove the head of the drum.

2) The unloader dumps the solid contents of the drum into a bin spotted at Location A by tipping the drum and leaning its top rim against the lid of the bin.

3) The unloader closes the lid of the bin when the solid level is about 6 inches from the top.

4) Laborer

Laborers assist tractor drivers and unloaders in unloading box trailers and pumping drums. Their efforts are regularly directed by supervisors, unloaders or tractor drivers. They also dig solids which collect in the storage tanks and stills during processing. The routine procedures are as follows:

a) The laborer rolls drums from a box trailer to the tractor bucket or the raised pad at Location A.
b) The laborer assists the unloader in pumping drums at Location A by opening bungs on designated drums or transferring the charge pipe from one drum to another which is already opened.
c) The laborer assists the unloader in changing viscous liquids from drums to the small blending tank by rolling drums to the dump box ramp or dumping their contents into the dump box.
d) The laborer assists the unloader in transferring solids remaining in the drums to the bins. He cuts out the heads of drums if needed and dumps their contents into the bins.
e) The laborer rolls empty drums to the spotted trailer.
f) The laborer digs solids which collect in stills and storage tanks during processing. The procedure is as follows:

i) The supervisor inspects the tank or still and signs his name on the digging sheet.
ii) The laborer positions the breathing apparatus near the tank.
iii) The laborer checks that both breathing air cylinders are charged.
iv) The laborer puts on the protective clothing, boots, and gloves.
v) The laborer enters his name, time, and the name of the person watching him while he is inside digging the tank.
vi) The laborer turns on the air cylinder and sets the rotameter to 15-20, which should last 30 minutes.
vii) The laborer places the protective breathing helmet over his head and face. He makes sure that he feels the flow of fresh air in the helmet.
viii) The laborer enters the tank using a spark-proof shovel to dig the solids.
ix) The laborer immediately exits the tank if he senses a loss of air, if he feels dizzy, or if he feels a burning sensation on his skin.
x) The laborer shovels the solids to a bin or an openhead drum.
xi) When the job is completed, the laborer enters the time on the digging sheet.
xii) If the person watching the laborer sees the rotameter fall or the pressure gauge on the air cylinder reach 200, he notifies the laborer to exit the tank. The laborer removes the helmet, changes the cylinder, then continues digging.

Unloader - Routine procedures

d) Charging viscous liquids in drums to small blending tank at Location A.
A 1000 gallon blending tank is used to hold liquids too viscous or thick to handle with the regular drum pump. The viscous contents of drums are dumped into a 4 x 4 box where they are pumped to the blending tank (See Figure 5). The procedure is as follows:

1) The unloader rolls the drum to a position in front of the dumping ramp.
2) The unloader checks the void space in the blending tank to make sure that it can hold the contents of the drum.
3) The unloader starts the dumping box pump setting valves so that the liquid will be pumped to the blending tank.
4) The unloader slowly loosens the 2 inch bung and removes it from the drum.
5) The unloader slowly pushes the drum over to the horizontal position on the dumping box ramp.
6) The unloader slowly removes the 3/4 inch bung by positioning himself on the grating beside the dumping box ramp.
7) The unloader removes solid material that may collect on the dumping box screen with a shovel placing it in an open-head drum.
8) The unloader takes a sample of the material in the tank when it is about 2/3 full and gives it to the supervisor.
9) The unloader dumps thinning material into the dump box, if instructed by the supervisor, to thin down the viscous liquids in the blending tank.
10) The unloader rolls the empty drums to a trailer spotted at Location A.

Unloader - Routine procedures

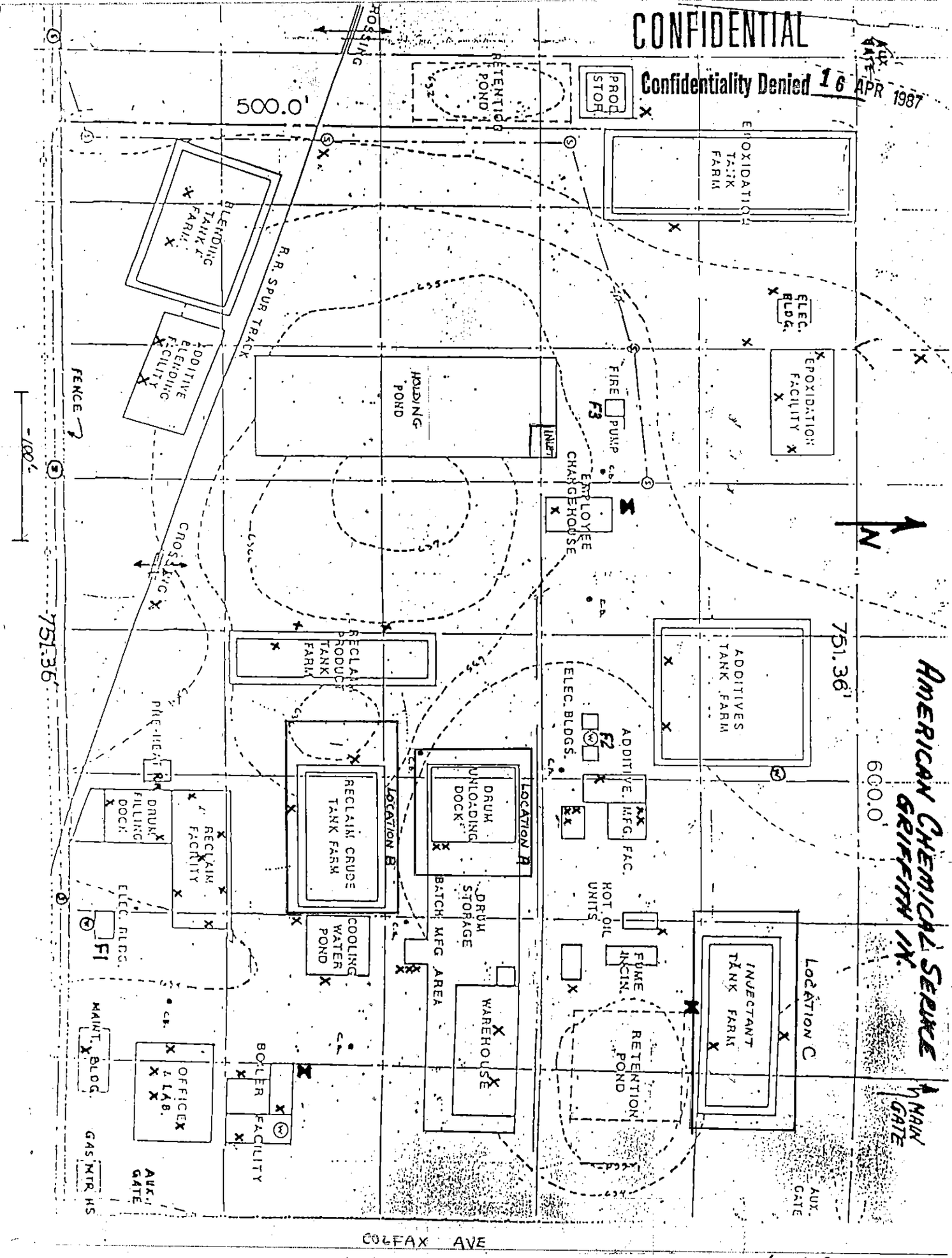
e) Pumping liquids in small blending tank at Location A to storage tanks in Location C.
Figures 4 and 5 show the location of the blending tank and storage tanks. The procedure is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in the blending tank to a designated storage tank in Location C.
2) The unloader measures the void space in inches on the storage tank to check that the tank will hold the gallons of liquid in the blending tank (usually 1000 gallons). Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader walks the line from the small blending tank area to the storage tank, opening the proper valves and closing unused valves attached to the line.
4) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
5) The unloader opens the valve on the storage tank.
6) The unloader turns on the pump at the blending tank.
7) The unloader opens the bottom valve on the blending tank.
8) The unloader looks into the manway of the tank to make sure that the material is being pumped from the tank.
9) The unloader walks the line to the storage tank to check for leaks.
10) The unloader watches the pin move on the gauge to check that the material is being pumped to the proper storage tank.
11) The unloader remains in the area during the pumping of the material.
12) The unloader watches the blending tank go empty and then closes the bottom valve on the tank.
13) The unloader turns off the pump and immediately closes the discharge valve on the pump.
14) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.

A check valve on the nitrogen purge system will clatter when the atmospheric condition is reached. The operator removes the nitrogen purge system and goes back to step (1) and starts over again. Any dirty material in the lines is drummed.

9) The operator turns on the product pump when clean distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.

10) The operator records the time and temperature when the still starts to distill.



Nov 84

LEGEND -

- x - PORTABLE HAND EXTINGUISHERS (DRY CHEMICAL) 20#
- M - PORTABLE WHEEL EXTINGUISHER (DRY CHEMICAL) 120#
- F - STATIONARY HOSE FOAM UNITS 6%
  - 1 - RECLAIM - RADIUS 200' 1½" LINE
  - 2 - ADDITIVE - RADIUS 300' 1½" LINE
  - 3 - EPOXIDATION - RADIUS 350' 2½" LINE

FIGURE 1

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INDUSTRIAL DISPOSAL
MR. FRANK INC.

July 24, 1985

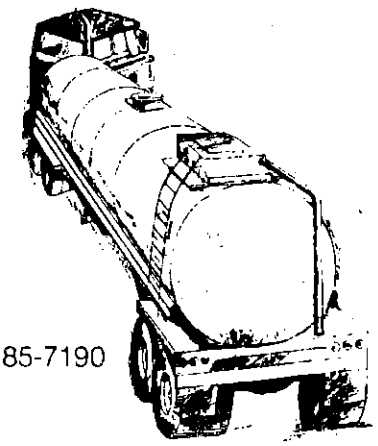
Mr. Jim Tarpo
American Chemical Service
Colfax Avenue C&O Railroad
Griffith, Indiana 46319

Re: Emergency Contingency Plan

Dear Jim:

Mr. Frank, Inc. is pleased to have this opportunity to help you establish an emergancy contingency plan. We offer you the following:

1. Proper equipment to pick up free liquids which have spilled.
   a. Equipment availible (24) twenty-four hours per day.
   b. Equipment availible seven (7) days per week.
2. Proper equipment for transporting contaminated soil from spills of the following listed wastes.
   a. F001
   b. F002
   c. F003
   d. F005
3. Contacted C.I.D. regarding emergancy spills.
   a. Expect emergancy permit within twenty-four (24) hours via phone conversations.
   b. Must contact Indiana Response Group, Illinois Emergancy Response Group, National Emergancy Response Group.
4. Criteria for disposal in bulk.
   a. No absorbants added.
   b. No free liquids.
   c. Passes test as non-ignitable solid.
5. Approximate Disposal Costs - BULK
   a. Transportation and disposal per 20 yd. truck load.....$1,900.00
   b. Disposal costs subject to change with little notice.



201 West 155th Street • South Holland, Illinois 60473 • (312)596-3377 • (312)785-7190

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INDUSTRIAL DISPOSAL
MR. FRANK INC.

Confidentiality Denied 16 APR 1987

Jim, as always, all work performed by Mr. Frank, Inc. will be in strict compliance of all federal, state and local laws rules and regulations.

Should you have any questions, please feel free to contact us at anytime.

Sincerely:

Dennis P. Herrle
Sales Representative

DPH/slh

CONFIDENTIAL

Confidentiality Denied 16 APR 1987

WELLS HAULING AND EXCAVATING
P.O. Box 407
Griffith, IN 46319
219-924-8581
219-738-0712 Beeper

August 15, 1985

Mr. James Tarpo
American Chemical Service, Inc.
420 South Colfax
Griffith, Indiana 46319

Re: Contingency Plan

Dear Mr. Tarpo:

Wells Hauling and Excavating will make available to you for your contingency plan the following equipment:

1) 1-Rubber tire front end loader-backhoe with operator
   a) availability-24 hours per day, 7 days per week
   b) storage-northwest corner of American Chemical plant site.

2) 1-Caterpillar Tractor-front end type with operator
   a) availability-24 hours per day, 7 days a week
   b) storage-northwest corner of American Chemical plant site.

I am familiar with procedures required by your company to handle hazardous wastes.

Our company has had a good working relationship with you for the past 15 years.

Sincerely,

Rick Baldner
Owner-Operator

RB/rl

Shutdown of Boilers

- Shutdown both boilers,
- Break all electrical mains except on the condensate pump and deep well pump,
- Report to emergency coordinator for further instructions.

Shutdown of Office and Lab

- Stop lab tests,
- Shutdown office and computer operations and leave telephones free and staff ready to accept calls,
- Report to emergency coordinator for further instructions.

Evacuation

- Follow evacuation plan in VIII,
- Reassemble at Colfax and Reder Road south of the plant and await further instructions.

IV Spill Control Plan

American Chemical Service is bordered by Colfax Avenue on the East, company railroad tracks on the South, the Grand Truck Railroad on the North, and lowland with an elevated barrier to the West. Both the track beds of the company and the Grand Trunk are elevated above the natural terrain of the plant site and thus provide a barrier to spill flow. The roadbed of Colfax Avenue is likewise elevated and would resist flow in an easterly direction.

Inside the fenced protion of the plant the hazardous waste facility is bordered by a road on the North, East, and West and by the company tracks on the South. Within the hazardous waste portion a runoff system and holding pond with a capacity of 266,000 gallons and small inlet compartment are operational. There is also a retention pond of approximately 10,000 gallons at the northeastern corner.

All hazardous waste storage tanks are diked. The drum storage area is curbed. Dimensions of the dikes that surround the fixed storage areas are based on the Indiana Fire Marshall's Flammable Liquid Code and Allowances, Inc.

Each Tank containing hazardous waste is constructed to ASME specifications for the material it contains. Each is equipped with a direct reading guage and alarm system to prevent over-filling.

Main power switches for the pumps situated in the fixed storage areas are located in a building at least 50 feet from the dikes.

There are daily logged inspections of dikes, tanks, valves, and piping. Personnel are constantly aware of the dangers of a major chemical spill both as a fire and environmental threat.

V. Arrangements With Local Authorities

The town of Griffith has a disaster plan that makes provisions for dealing with emergencies at American Chemical Service. They have, in fact, activated portions of the plan over the past years. Although American Chemical Service is not specifically mentioned in the plan, it provides for various forms of assistance. The plan currently includes: traffic control, fire fighting (including arrangements with adjoining fire departments), access to Civil Defense, evacuation by the Griffith Police or Civil Defense, and arrangements with local hospitals. A copy of our contingency plan is on file at the town hall.

A meeting was held between the management of American Chemical Service and the Griffith Police Chief, Fire Chief, and assistant head of the Department of Public Works. They have expressed a willingness to consider an addition to their disaster plan to include specific emergencies that might occur at our plant. We intend to supply them with suggested response actions for these emergencies.

VI EMERGENGY COORDINATOR LIST

AMERICAN CHEMICAL SERVICE, INC.
420 South Colfax
Colfax Avenue at C & O RR.
P.O. Box 190
Griffith, Indiana 46319

Telephone - Area Code (219) 924-4370

ENERGENCY COORDINATOR
JAMES MURPHY - PRIMARY
1524 Heather Court
Munster, IN 46321
Telephone (Home) - (219) 924-9835
(Work) - (219) 924-4370
(Beeper) - (219) 738-0865

GEORGE MURPHY, JR.
11711 South Oakridge Drive
St. John, IN 46373
Telephone (Home) - (219) 365-3763
(Work) - (219) 924-4370
(Beeper) - (219) 738-0866

JOHN MURPHY
501 Eagle Court
Valparaiso, IN 46383
Telephone (Home) - (219) 464-2076
(Work) - (219) 924-4370
(Beeper) - (219) 738-0864

VII Emergency Equipment

The list of emergency equipment is as follows:

1. Hand - held dry chemical fire extinguishers - 45
2. Wheeled dry chemical engines - 2
3. Foam units - 3
4. Caterpillar tractor - front end type - 1
5. Dump trucks (24 hour call)
6. Rubber tire frontend loader - backhoe - 1
7. Vacuum trucks (24 hour call)
8. Portable pumps - 2
9. Sprinkler system - 2
10. Breathing apparatus and suits - 2
11. Communications system.

1. The hand-held dry chemical fire extinguishers are ABC type. They contain 20 pounds of dry chemical. Their location throughout the plant is shown in Figure 1. Hoosier Fire Equipment, Inc., Valapraiso, Indiana, regularly maintains and tests these extinguishers. The hand-held units are used on small fires within three feet of the base of the flames. All units are activated by a single valve for use by one man.

2. The wheeled dry chemical engines are ABC type. They contain 145 pounds dry chemical. The location of these two units is shown in Figure 1. Hoosier Fire Equipment regularly maintains and tests these extinguishers. The engines are specifically engineered for "one man" operation. They are designed to pass through normal doorways and are maneuverable across rough or broken terrain to insure accessibility to the fire. The engines are activated by a single valve and have an integral gauge for visual inspection. When fire occurs, the engines are wheeled to within approximately 40 feet upwind of the fire. The nitrogen valve is opened fully and the hose is uncoiled. The nozzle is opened and directed at the base of the flame with a side to side motion. Straight flow is used when within 10 feet of flames. The engines are designed for use on small to moderate fires.

3. The foam systems are HL-6 hand line foam nozzle type for use with National hand line foam liquid. With a water capacity of 60 gpm at 100 psi and a 6% concentration of foam liquid, the system produces 600 gpm of foam with a long range stream of 65 to 70 feet. The location and range of the three units, F1, F2, F3, are shown on Figures 1,5. Each system has an independent source of water. When foam nozzles are used, particular care should be taken to apply the foam as gently as possible. For straight steam use, the foam should be banked off the side of a wall or other obstruction. Foam can also be rolled onto the surface by hitting the ground in front of the spill or fire. Care should be taken to minimize the mixing of the foam and fuel. The system is designed for single man operation on moderate to large chemical fires.

4. The caterpiller tractor is a front end type and is on the site 24 hours a day at the northwestern corner of plant boundary. It is owned and operated by Wells, Hauling and Excavating, who is on 24 hour call. The unit is used to load contaminated ground from spills into drump trucks. (219-924-8481 and 219-738-0712 beeper).

5. Dump trucks owned and operated by Mr. Frank, Inc. are available and approved to haul contaminated ground from spills. They are on call 24 hours a day. Truck capacity is 20 yards. (See Mr. Frank, Inc. letter dated July 24, 1985. Tel. 312-596-3377 and 312-785-7190)

6. A rubber tire front end loader, owned and operated by Wells, Hauling and Excavating, is on the site at the northwestern corner of plant, and it is available 24 hours each day, and is very mobile. It is primarily used to remove contaminated ground from spills and load it into drump trucks. (219-924-8481 and 219-738-0712 beeper)

7. Vacuum trucks, capacity 5000 gallons each, are on call 24 hours each day. Mr. Frank owns and operates these trucks, which are approximately one hour travel time away from the plant. (312-596-3377 and 312-785-7190)

8. Two portable, positive displacement pumps are available to pump liquid spills. Their capacity is 90 gpm. and hose lengths of 200 feet can be used. The primary pump is stored in the barrel house which is located near the southwestern corner of the plant.

9. Two sprinkler systems are installed at the plant. One is in the reclaim facility which is manually activated; the other is in the Epoxol facility which is automatically activated. See Figure 1 for these locations. Each has an independent water source.

10. Two breathing apparati are available in the plant. Each unit uses a compressed air cylinder. One unit with a total head covering is connected by 50 feet of hose to cylinder. Available breathing time per cylinder is 30 minutes. This cylinder is stored in reclaim building at southern end of plant. The other unit with face covering is totally self-contained, and has an available breathing time of 15 minutes. This unit is stored in north entry of office. Complete body suits are available with each unit. They are both OSHA approved.

11. The communications system consists of seven phones placed in areas throughout the plant. Five phones are capable of interplant communications only. They are located in the reclaim, warehouse, additive manufacturing, epoxidation, and barrel house sections. The other two phones can be used for interplant or outside calls. They are located in the lab, and change room. Dial 7 on intercom phone line turns on two sirens which are located at the office and change room.

VIII Evacuation Plan

The evacuation plan for plant personnel is as follows:

- Location A, Additives and Epoxol - Head southwest (south for Epoxol) to the south gate cross the railroad tracks, go east to Colfax, then south to Reder Road and wait; or head west to the west gate, then south across the railroad tracks, go east to Colfax, then south to Reder Road and wait;

- Location B and Barrel House - Head south to the railroad gate, (south gate for Barrel House) cross the tracks, go east to Colfax, then south to Reder Road and wait; or head east to the southeast gate to Colfax, then south to Reder Road and wait;

- Location C - Head north to the north gate to Colfax, then south to Reder Road and wait; or head west to the west gate, then south across the railroad tracks, go east to Colfax, then south to Reder Road and wait;

- Office, Maintenance and Warehouse - Head southeast to the southeast gate to Colfax, then south to Reder Road and wait; or head southwest to railroad gate, cross the tracks, go east to Colfax, then south to Reder Road and wait.

The Emergency coordinator must account for all personnel at the meeting point (Colfax and Reder Road).

IX Emergency Procedures

The contents of the emergency procedures indicate what observations, indentifications, assessments, and decisions the emergency coordinator must make during an emergency in order to direct plant personnel to the correct response actions.

a) The emergency coordinator is notified, called or beeped by plant personnel for:

1) A minor spill of hazardous material greater than 5 gallons outside a containment area,

2) A major spill of hazardous material,

3) A fire or explosion involving hazardous material

The emergency coordinator gets the location from the reporting personnel and:

1) For a minor or major spill he orders shutdown of the sections within 50 feet of the spill and a state of readiness for the rest of the plant (If a section is shutdown he dials 7 on intercom to sound the plant alarm).

2) For a fire or explosion he orders shutdown of section within 100 feet of fire and state of readiness for rest of plant(If a fire is large he orders shutdown of all sections and sounds plant alarm by dialing 7 on intercom). Shutdown procedures for all sections are on pages 16-18.

Local agencies have no immediate response role. They are notified later if they are needed.

b) The emergency coordinator then goes to the scene of the emergency. He:

1) Inspects the spill, fire or explosion, nearby tanks, drums, tank wagons and spark sources;

2) Estimates gallons of material involved and the size of the emergency;

3) Determines the exact source (i.e. drum, tank or tank wagon);

4) Consults daily tank log, hazardous drum label or tank wagon manifest to identify the makeup of materials (He knows that all hazardous wastes accepted at the plant are compatible. They are flammable liquids (D001, D003, F005) and spent liquid halogenated solvents (F001, F002). They require a protective suit and a breathing apparatus for contact.);

c) He:

1) Checks human contact or injury, accounts for personnel, and tells them to:

i) wash contacted area of body,

ii) change clothing

iii) visit Hammond Clinic for injury or if material was taken internally.

2) Removes personnel upwind to a distance of:

i) 20 feet - small spill,

ii) 40 feet - large spill,

iii) 40 feet - small fire

iv) 100 feet - large fire or explosion.

3) For spills he must:

i) confirm that spill is contained, stagnant and no threat by walking around perimeter of spill,

ii) shut off line from holding pond to sewer if spill reaches the inlet compartment.

4) For fire or expolsion he must:

i) check smoke from fire (Dense black smoke indicates a large amount of organic loading. Do not let personnel breathe smoke. For fires with F001, F002 liquids, combustion gases are acidic and irritiating. A protective suit and breathing apparatus are available for contact.),

ii) check direction that the smoke is heading,

iii) check for the spreading of foam liquid while fighting the fire (It must not leave plant boundary.),

iv) watch tanks near the fire (Heavy venting from the tank vent means rapid heating. An explosion could follow.),

d) For a large fire or expolsion he notifies the Griffith Police to:

1) Block the intersections at Colfax and Main, Colfax and Reder allowing only emergency vehicles to pass,

2) Evacuate areas of Griffith downwind if dense black smoke or vapor releases are leaving the plant boundary (For F001, F002 liquids, combustion gases are acidic and irritating. Tell people to seek medical attention for inhalation.),

3) Call Hammond Clinic that people from Griffith may require medical attention for inhalation of acidic gases,

4) Notify Griffith Police when fire is out, to remove roadblocks, and to reinhabit evacuated areas when air is clear.

He call the National Response Center (800-424-8802) and reports:

1) James Murphy or other emergency coordinator and 219-924-4370
2) American Chemical Service, Inc.
   420 S. Colfax
   Griffith, Indiana 46319,
3) Time and word "Spill or Fire",
4) Makeup of spill or fire (i.e. D001) and gallons,
5) Human contact or injury,
6) For spills that hazards to human health are low since spill is contained within plant boundary and protective gear is available for contact,
7) For large fires or explosions that police are to evacuate areas downwind if there is dense black smoke or vapor releases, that protective gear is available when fighting fire, and that liquid from the spill and foam system is contained within the plant boundary (For F001, F002 liquids, combustion gases are acidic and irritating and evacuated people may require medical attention for inhalation.),
8) For other fires that hazards are low since fire is being put out quickly and protective gear is available for contact.

e) For spills and fires refer to part (a) for areas shutdown. For a spill he must:

1) Keep cars, tractors, trucks, etc at least 40 feet away,

2) Order shutdown of spark sources within 60 feet (i.e.fume incinerator, hot oil heater, or boiler),

3) Place fire fighting equipment (i.e. dry chemical engines and foam system) within 40 feet,

4) Pump free liquid on ground to a storage tank in Location B or C (This includes contaminated ground water. All hazardous wastes are compatible.),

5) Check that spill is not spreading by walking the perimeter of the spill area,

6) Skim liquid from inlet compartment of holding pond to a storage tank, if applicable, and sample water left in pond (In general hazardous wastes accepted at the plant have a low water solubility.),

7) Pump contents of drum, tank, or tank wagon to a storage tank if the container continues to leak,

8) Use Mr. Frank vacuum trucks if spill is beyond reach of the portable pump system,

9) Remove portable pump and hoses to drum storage area,

10) Rope off area after liquid is removed until ground cleanup begins,

11) Check area frequently,

12) Remove contaminated ground with a front end loader-backhoe (Wells, Hauling and Excavating) and dump trucks (Mr. Frank, Inc.),

13) Inspect area when digging is completed to make sure that no contaminated ground remains.

For a fire or explosion he must:

1) Order tank wagons and box trailer trucks not involved in fire to move away or leave the plant (Keep trucks at least 100 feet away.),

2) Put out a small fire with a hand-held fire extinguisher,

3) Put out a moderate fire with a dry chemical engine,

4) Put out a large fire with Foam System F1, F2, F3,

   i) For location A - use F2, F3,

   ii) For Location B - use F1, F2, F3,

   iii) For Location C - use F2.

5) Know the capabilities of each fire fighting system (For details see Emergency Equipment VII - 1,2,3),

6) Check if fire is spreading or abating,

7) Draw back to a new fire line to protect other portions of the plant if the fire is spreading,

8) Do not let fire jump the fire fighting line,

9) Use Griffith Fire Department to fight building or brush fires.(They have conventional equipment. Do not put plain water on a chemical fire since the fuel floats on water.),

10) Determine when fire is out (Leave no smoldering areas.),

11) Check that foam liquid and spill remaining is not moving and is contained,

12) Check fire area frequently to make sure that it does not restart,

13) Release Griffith Fire Department,

14) Follow steps 4 through 13 (part (e) for spills) to remove foam liquid, spill liquid left from fire, and contaminated ground.

f) During the spill or fire emergency he must:

1) Check shutdown section every hour and:

i) check temperatures of reactors, process tanks, fume incinerator, hot oil heater, and boiler,

ii) check deep wells, cooling water pumps, and boiler condensate pump,

iii) check pressure on boiler and plant steam lines.

2) Check the following in area affected by spill or fire:

i) tank, tank wagons and drums,

ii) valves, pipes, hoses, and filters,

iii) tank gauges and pressure gauges.

g) The emergency coordinator must:

1) Call Mr. Frank, Inc. (312-596-3377) to obtain an Emergency Spill Permit with C.I.D. to dispose of the contaminated ground,

2) Store scrapings and soiled protective clothing in open-head drums at the drum storage area until they are hauled to a secure landfill (Scrapings are collected during the cleaning of shovels and the front end loader.),

3) Pump flushings of solvent used to clean the portable pump and hoses to a storage tank in Location B or C,

4) Check that liquids recovered from the spill and flush solvents used for cleaning are processed normally in Location C.

h) He must:

1) Know that all wastes accepted at the plant are compatible with the spill liquid,

2) Inspect emergency equipment to make sure that it is ready for another emergency and:

i) all equipment must be clean and at the proper storage location

ii) spent fire fighting equipment must be recharged or replaced.

i) He notifies the Regional Administrator (800-424-8802) and Indiana Response Center(317-633-0144) that:

1) No incompatible wastes are stored at plant,

2) All emergency equipment is ready for another emergency,

3) Normal operations in rest of plant are ready to be resumed,

4) The affected section of the plant will not startup until the damaged operations equipment is fixed or isolated from use.

j) He enters time, date, and details of spill or fire in the operating log. Within 15 days he must file a written report to the Regional Administrator stating:

1) James Murphy - owner-operator
1524 Heather Court
Munster, Indiana 46321,

2) American Chemical Service, Inc. - facility
420 South Colfax
Griffith, Indiana 46319

3) Date, time and word "Spill" or "Fire",

4) Makeup of spill or fire (i.e. D001) and gallons,

5) Human contact or injury,

6) Hazards at the plant were low since protective gear was available where there was contact and:

i) for spills the liquid was contained within the plant boundary,

ii) for a small fire vapor releases were low since the fire was put out quickly,

iii) for large fires the police evacuated areas downwind if there was dense black smoke; and the liquid left from the foam system and the fire was contained within the plant boundary,

iv) for a large fire (with F001, F002 liquids) the combustion gases were acidic and irritating; evacuated people were treated for inhalation at a hospital, if applicable,

7) Gallons of foam liquid and spill liquid recovered, yards of contaminated ground removed, and location of landfill (The recovered liquid was used in normal processing since all wastes are compatible.).

DRUM UNLOADING DOCK LOCATION A
SCALE 1"=10' JULY 1985
FIGURE 2

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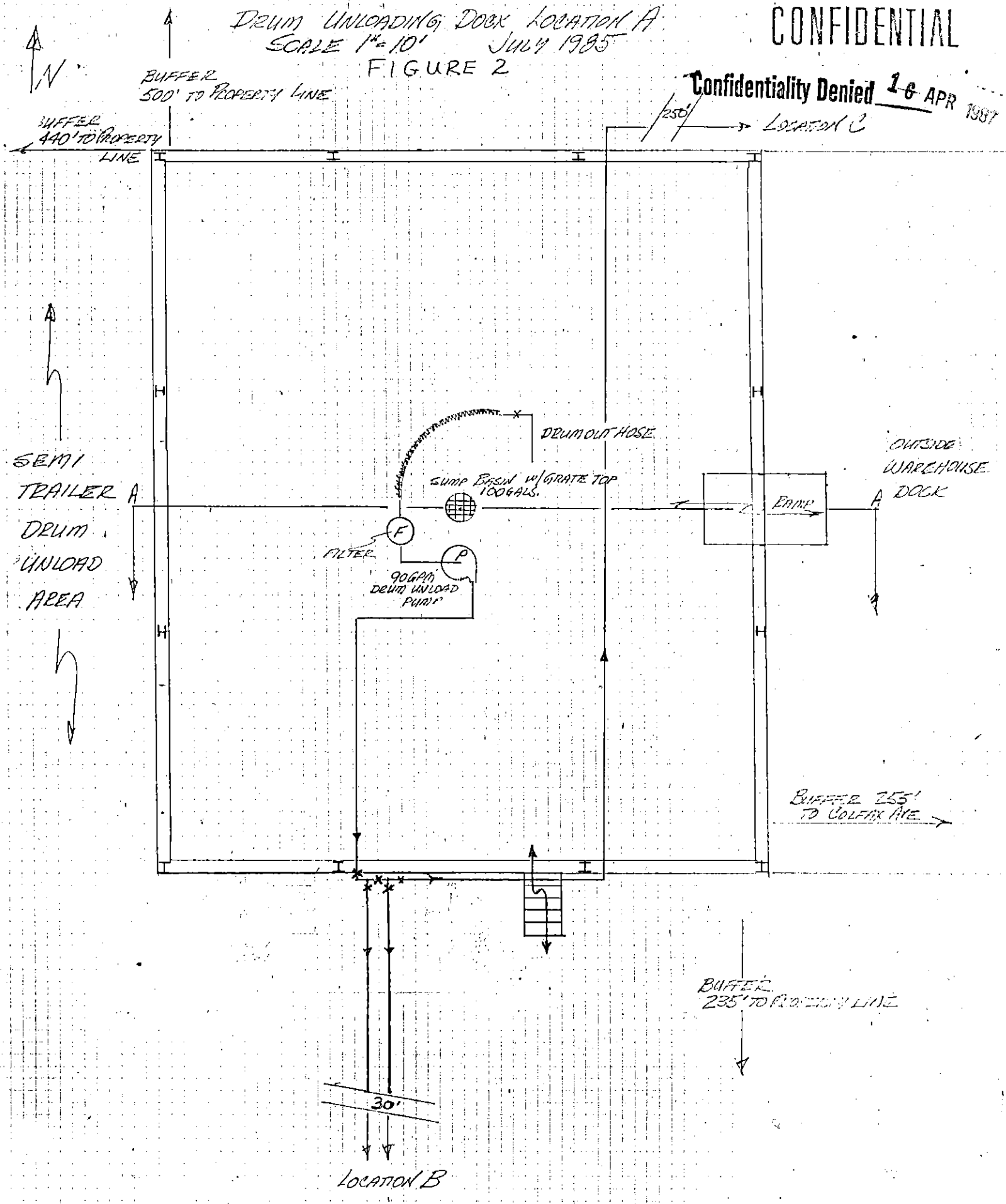
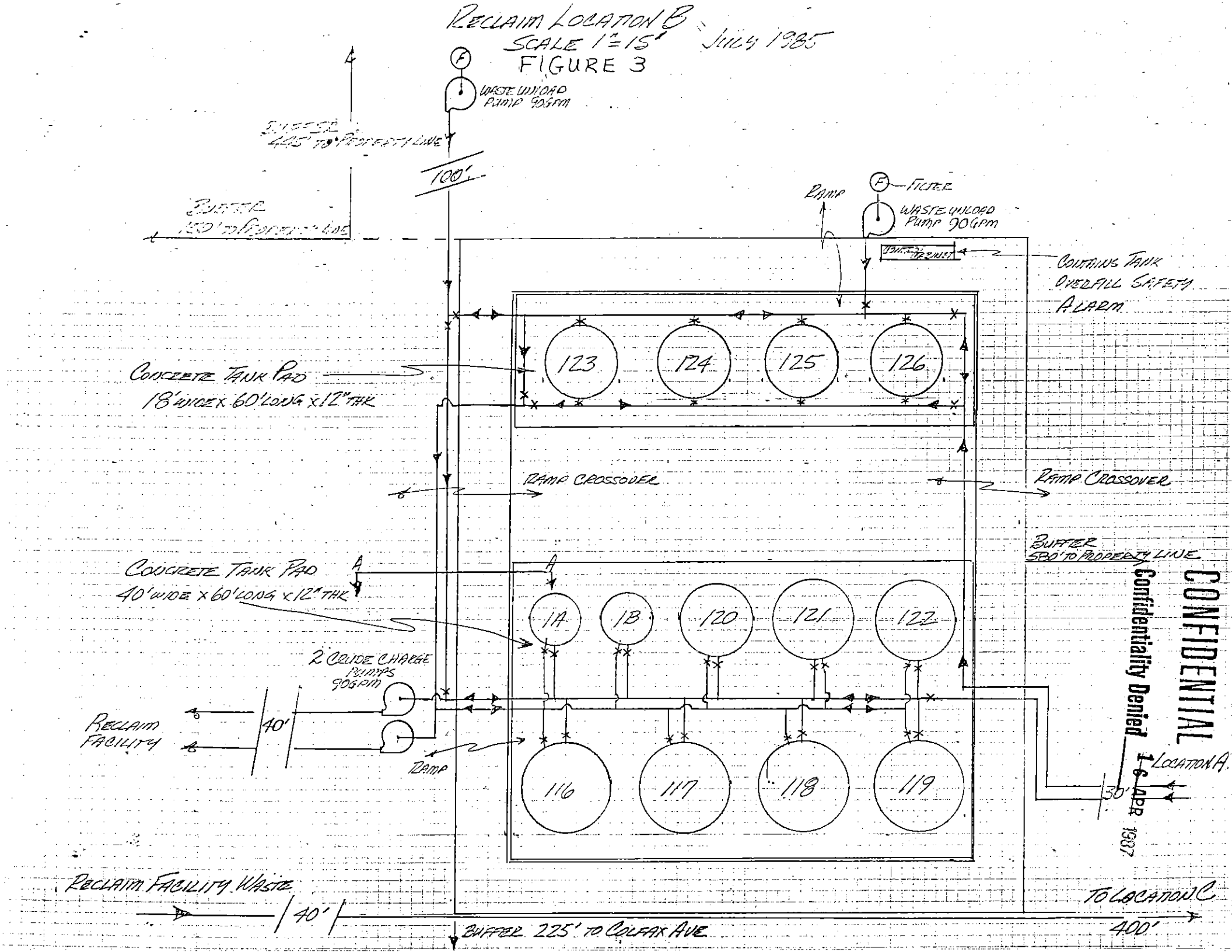


RECLAIM LOCATION B — JULY 1985

SCALE 1" = 15'

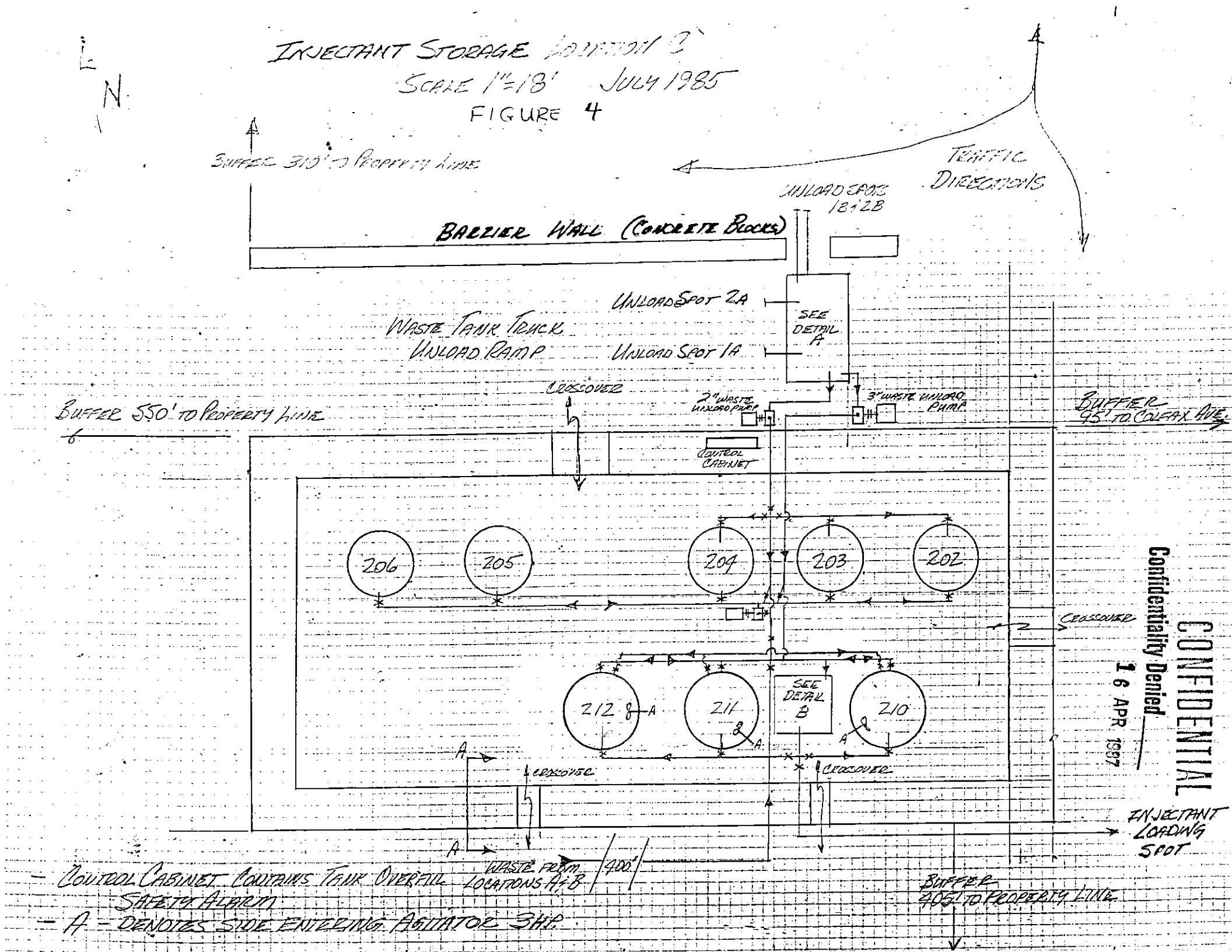
FIGURE 3



INJECTANT STORAGE LOCATION 2

SCALE 1"=18' JULY 1985

FIGURE 4



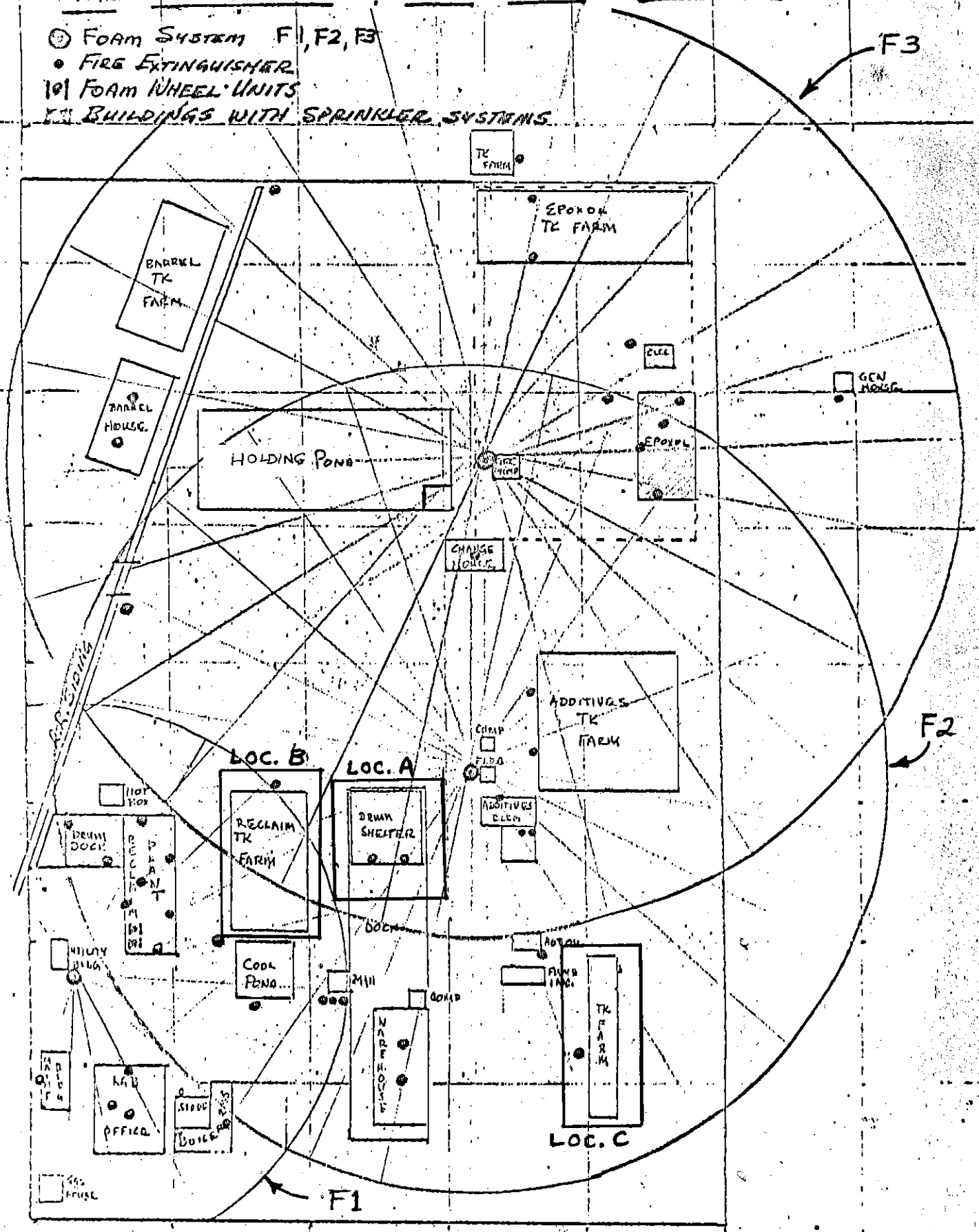
— CONTROL CABINET CONTAINS TANK OVERFILL SAFETY ALARM

— A — DENOTES SIDE ENTERING AGITATOR 3HP

FIGURE 5

FIRE EXTINGUISHER & FOAM SYSTEM LOCATIONS

⊙ FOAM SYSTEM F1, F2, F3
• FIRE EXTINGUISHER
|o| FOAM WHEEL UNITS
BUILDINGS WITH SPRINKLER SYSTEMS



- Personnel Training
264.16

A).(1) Facility personnel must successfully complete an instructional program and on-the-job training before assuming responsibilities for handling hazardous wastes.

(2) This program is directed by the emergency coordinator.

(3) As part of the instructional training program, the following items are explained to each employee by the emergency coordinator:
(i) Safety precautions;
(ii) Job descriptions outlining the methods for handling hazardous wastes where applicable;
(iii) Emergency equipment and its operation;
(iv) Monitoring equipment and its operation where applicable;
(v) Communications system;
(vi) Response to fires or explosions;
(vii) Response to ground water contamination; and
(viii) Shutdown of operations.

As part of the on-the-job training each employee is required to perform duties on the job where applicable as outlined in job descriptions under the direct supervision of the emergency coordinator.

New plant personnel are indoctrinated in the instructional program by the emergency coordinator. See part (3) of this section. In addition there is a training period (usually 2-3 weeks) where new personnel work directly with experienced personnel to aquire skills to handle the hazardous waste properly. At the end of that period the newly trained employee is required to perform duties on the job under the direct supervision of the emergency coordinator as outlined in the job descriptions.

B).Facility personnel have completed the training program.

C).Facility personnel have completed the annual review.

D).1,2,3,4,5 are maintained on file at our facility.

E).Training records are on file at our facility.

(i) SAFETY PRECAUTIONS

1. No smoking is permitted at the facility except at designated areas. See Figure 6.

2. Safety equipment such as hard hats, safety glasses, and gloves must be worn at all times except in smoking areas. See Figure 6.

3. Workers at the facility must not contact the hazardous waste. If he does, clothing must be changed and the contact area washed thoroughly.

4. All possible ignition sources, such as matches, reciprocating engines, open flames, frictional sources, and sparks must be kept away from exposed wastes if any. Normally wastes are contained in drums or tanks.

(ii) - JOB DESCRIPTION OUTLINING THE METHODS FOR HANDLING HAZARDOUS WASTES

Job titles related to hazardous wastes are as follows:

1) Operator

2) Unloader

3) Tractor driver

4) Laborer

Written job descriptions for each position are as follows:

1) Operator

Operators operate the reclaim facility. They distill solvents from hazardous wastes in Location B (See Figure 1) in vessels (stills) using steam and vacuum. The distillate solvents are stored in the reclaim product tank farm. The residue from the stills are pumped to the waste fuel tank farm at Location C (See Figure 1).

Routine procedures are as follows:

a) Charge amounts of 4000 and 2300 gallons.

b) Pumping hazardous waste from tanks in Location B to the still.

c) Still startup.

d) Distillation of solvents during run.

e) Sampling of residue to shutdown still.

f) Shutdown of still.

g) Pumping residue to Location C.

h) Digging still heating coils.

i) Distillation of solvents in #7 still

Detailed procedures for steps (a) through (i) are attached.

CONFIDENTIAL

Confidentiality claim denied by Office of Regional Counsel 19 APR 1985

Operator - Routine procedures

a) The charge amounts are 4000 and 2300 gallons. Below is a list of the storage tanks and the inches on the straight side of each tank which corresponds to the designed charge.

TANK	4000 GAL.	2300 GAL.	GAL/INCH
116-119	57 inches	33 inches	70.5
120	100 "	58 "	40.
121-122	82 "	47 "	48.5
123-126	82 "	47 "	48.5
1A-1B		111"	20.7

The gauges on the tanks are counterweight float type. When the counter weight is at the bottom of the tank, the tank is full. When the counterweight is at the top of the tank, the tank is empty.

Figure 2 shows the location of the storage tanks.

b) Pumping hazardous waste from tanks in Location B to the still. Charges for the stills are contained in tanks 1A, 1B, 116-119, 120-126. Figures 2 and 3 are detailed drawings showing the tanks, piping, and valves. The procedure for charging a still from the storage tank is as follows:

1) The supervisor specifies the material to be charged; the amount, and the storage tank number. This information is written on a daily run sheet for each still.
2) The operator determines the inches corresponding to the specified gallons from the tank chart in part(a).
3) The operator checks that the still is empty by opening the atmospheric vent valve on the still and then opening a drain valve on the bottom of the still. He drains the line into a bucket. Fumes in the still will come out of the line if the still is empty.
4) The operator turns on the still recirculating pump and the greaser system.
5) The operator opens valves on the transfer line between the storage tank and the still. He closes unused valves attached to the transfer line. The last valve to be opened is the storage tank valve.
6) The operator sets the pin on the 0 inches mark on the tank.
7) The operator opens the valve on the storage tank.
8) The operator turns on the transfer pump to pump material to the still.
9) The operator inspects the lines to check that the line has no leaks.
10) The operator watches the pin move on the storage tank to make sure that the material is being pumped from the proper tank.
11) The operator periodically checks the line to make sure it is not leaking.
12) The operator remains in the area while pumping to the still.
13) The operator closes the storage tank valve when the pin reaches the proper inches reading on the gauge.
14) The operator turns off the pump.
15) The operator closes all valves on lines between the storage tank and the still.
16) The operator enters the time, storage tank number, still number, and gallons charged on the standard still run sheet.

c) Still startup
Stills are run at atmospheric or vacuum conditions. At the atmospheric condition the startup procedure is as follows:

1) The operator checks that the atmospheric vent valve on the still is open.
2) The operator sets the vent float in case the still later bumps during heatup. This device prevents the contents of the still from foaming out of the still during the run.
3) The operator closes the valve on the vacuum line to the still.
4) The operator records the time and temperature of the pot, vapor, and the cooling water on the condenser outlet.
5) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig usually. Runs of crude methylene chloride, perchlor, and trichlor require initial pressure settings of 30 psig.
6) The operator monitors the still pot temperature. At 120-150F solvents usually begin to vaporize from crude in the still. The vapors pass to the condensor where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still.
7) The operator turns on the product pump when the distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.
8) The operator records the time and temperature when the still starts to distill.

At the vacuum condition the startup procedure is as follows:

1) The operator closes the atmospheric vent valve on the still.
2) The operator opens the valve on the vacuum line to the still.
3) The operator sets the vacuum controls on 30(no vacuum).
4) The operator turns on the vacuum pump and sets the seal water flow at 5 gallons per minute or 5 psig on gauge.
5) The operator slowly adjusts the vacuum controller to a setting of 15.
6) The operator records the time and temperatures of the pot, vapor, and cooling water on the condenser outlet.
7) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig.
8) The operator monitors the still pot temperature. At 110-130F solvents usually begin to vaporize from the crude in the still. The vapors pass to the condenser where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still. If the material in the sight glass is dirty, the operator turns off steam to the heating coil and sets the vacuum controller to 30. He opens the atmospheric vent on the still after hooking up the nitrogen purge system to the vent.

A check valve on the nitrogen purge system will clatter when the atmospheric condition is reached. The operator removes the nitrogen purge system and goes back to step (1) and starts over again. Any dirty material in the lines is drummed.

9) The operator turns on the product pump when clean distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.

10) The operator records the time and temperature when the still starts to distill.

Operator - Routine procedures

d) Distillation of solvents during run.
During the run the operator watches the sight glass and vacuum indicator. Every other hour the time, vacuum, and temperatures of the vapor, pot, and condenser outlet water are entered on the run sheet. When a receiver almost fills, the operator takes a sample to check for color before pumping the liquid in the receiver. He then pumps it to a storage tank specified by the supervisor. The operator enters the time, storage tank gauge readings, before and after pumping, and the corresponding gallons. The gallons are then subtracted from the total initial charge to the still. The remaining gallons in the still are entered on the still run sheet.

Operator - Routine procedures

e) Sampling of residue to shutdown still.
As solvent is distilled the residue is concentrated and its viscosity or thickness increases. The operator takes a 4 ounce sample from a sample valve on the still coil when approximately 40-50% of the charge volume is distilled. When the sample cools and its consistency is like molasses, the still is shutdown.

f) Shutdown of still

The shutdown procedure for a still under vacuum conditions is as follows:

1) The operator enters the gallons remaining in the still and the time of the shutdown on the run sheet.
2) The operator closes the steam valve to the still heating coil.
3) The operator turns off the vacuum pump and seal water.
4) The operator attaches the nitrogen purge system to the atmospheric still vent line.
5) The operator opens the still vent valve.
6) The operator opens the nitrogen valve and sets the rotameter at 30 to bring the still back to atmospheric pressure. A check valve on the purge system clatters when atmospheric pressure is reached.
7) The operator turns off the product pump when the flow in the sight glass is reduced to a trickle.
8) The operator leaves the still recirculating pump on during and after the shutdown.

The shutdown procedure for a still at the atmospheric condition is as follows:

1) The operator enters the gallons remaining in the still and the time of the shutdown on the run sheet.
2) The operator closes the steam valve to the still heating coil.
3) The operator turns off the product pump when the flow in the sight glass is reduced to a trickle.
4) The operator leaves the still recirculating pump on during and after the shutdown.

g) Pumping residue to Location C.
Residues are pumped from the stills with a Worthington pump to storage tanks at Location C. Figure 3 shows the stills and pump, and Figure 4 shows the storage tanks at Location C. The procedure for pumping the residue is as follows:

1) The supervisor specifies the proper storage tank at Location C. This information is written on a daily run sheet for each still.
2) The operator determines the inches corresponding to the gallons of residue in the still for the specified storage tank. See table below.

Tanks - 202, 203 204, 205, 206 Gallons Residue	Inches	Tanks 210 211, 212 Gallons Residue
540	10"	700
810	15"	1050
1080	20"	1400
1350	25"	1750
1620	30"	2100
1890	35"	2450
2160	40"	2800
2430	45"	3150
2700	50"	3500

3) The operator then measures the void space in inches in the storage tank at Location C to check if the tank will hold the gallons of residue figured in tank inches.
4) The operator sets the pin on the weld mark on the tank approximately 5 feet off the ground.
5) The operator opens the valve on the storage tank.
6) The operator walks the line from the storage tank to the residue pump opening the proper valves and closing unused valves attached to the line.
7) The operator turns on the automatic greaser line to the packing gland of the residue pump.
8) The operator opens the bottom valve on the still.
9) The operator turns on the residue pump.
10) The operator loosely touches the line until it warms.
11) The operator walks the residue line to the storage tank to check for leaks.
12) The operator watches the pin move on the gauge at the storage tank to check that the residue is being pumped to the proper tank.
13) The operator periodically checks the residue line to make sure that no one has changed the valve settings and that the line is not leaking.
14) The operator remains in the area during the pumping of the residue.
15) The residue pump changes pitch when the still goes empty. The operator then closes the bottom valve on the still and discharge valve on the pump.
16) The operator turns off the pump.
17) The operator checks that the still is empty by opening a drain valve on the bottom of the still and draining the line into a bucket. Fumes in the still will come out of the line if the still is empty.

18) The operator closes the valve on the storage tank at Location C.
19) The operator closes all valves on the lines between the storage tank and the still.
20) The operator enters the time, storage tank, and gallons pumped from the inches on the gauge on the still run sheet.

h) Digging still heating coils
The procedure for digging the still heating coils is as follows:

1) The operator closes the 3 inch inlet recirculating valve to the coils.
2) The operator connects a nitrogen hose to the south end of the coil and blows any material left in the coil back into the still.
3) The operator closes the 3 inch outlet recirculating valve on the coils.
4) The operator drains any material remaining in the coil through a sample valve at the north end of the coil.
5) The operator removes the bolts on the coil flange.
6) The operator slowly pulls out the coil from the recirculating line to a support stand until he sees the end of the coil. Any excess material on the coils drains into trough on the north end of the coil.
7) The operator scrapes the coil with a curved spade until bare metal is seen.
8) The operator inserts the coil back into recirculating line and attaches the bolts to the flange.
9) The operator cleans 4 coils on #1 and #2 still and 2 coils on # 3 still.
10) The operator enters that the coils were dug on the still run sheet.

i) Distillation of Solvents in #7 still.

#7 still is a stainless steel 6000 gallon still fitted with a fractionating column and receiver. Solvents are fractionated or separated by liquids flowing down the column while vapors flow up the column from the still. Liquid flow down the column is controlled with a rotameter and pump which pumps liquid from the receiver. The liquid level in the receiver is held constant by adjusting a rotameter on the line to the storage tank.

The still runs at atmospheric pressure but is rated for full vacuum. Typical charges for the still are 5000gallons. Routine procedures for charging and still startup are identical to the other three stills running at atmospheric pressure except #7 still has no recirculating pump.

During the run the operator maintains constant reflux rate to the top of the column and varies the takeoff rate from the receiver to the storage tank to maintain a constant level in the receiver. He records pot and vapor temperatures, reflux rate, and takeoff rate every other hour.

The supervisor instructs the operator when to shutdown the still. The operator then turns off the steam to the heating jacket and the reflux pump. The operator pumps the residue to a tank designated by the supervisor.

2) Unloaders

Unloaders pump hazardous waste in tank wagons at unloading ramps in Location B and C. (See Figure 1) to storage tanks. They also unload drums of hazardous waste from box trailers to Location A (See Figure 1) and pump their contents to storage tanks in Location B or C.

Routine procedures are as follows:

a) Unloading tank wagons of hazardous waste.

b) Unloading box trailers of hazardous waste at Location A.

c) Pumping hazardous waste in drums at Location A to storage tanks.

d) Changing viscous liquids in drums to small blending tank at Location A.

e) Pumping liquids in small blending tank at Location A to storage tanks at Location C.

f) Transferring solid material remaining in drums after pumping at Location A to bins.

Detailed procedures for steps (a) through (f) are attached.

Unloader - Routine

a) Unloading tank wagons of hazardous waste
Hazardous waste is pumped from tank wagons at unloading ramps in Location B and C to storage tanks 1A, 1B, 116-126. Figures 1, 2, 4 show the location, pumps, piping and valves for each tank. The gauges on the storage tanks are counter-weight float type. When the counterweight is at the bottom of the tank, the tank is full. When the counterweight is at the top of the tank, the tank is empty. Table 1 shows the gallons of void space and corresponding inches on the straight side of each tank. The procedure for unloading tank wagons is as follows:

1) The supervisor checks the manifest papers.
2) The unloader vents the tank wagon.
3) The unloader opens the manway.
4) The unloader lowers a sample container to the bottom of the tank wagon.
5) The unloader brings the sample to the lab. When the supervisor analyzes the sample, he instructs the unloader to unload the tank wagon to a specified storage tank.
6) The unloader measures the void space inches in the storage tank to check if the tank will hold the gallons in the tank wagon (See Table 1).
7) The unloader connects the unloading hose to the tank wagon.
8) The unloader walks the line from the tank wagon to the storage tank, opening the proper valves and closing unused valves attached to the line.
9) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
10) The unloader opens the valve on the storage tank.
11) The unloader turns on the unloading pump.
12) The unloader slowly opens the bottom valve on the tank wagon. He feels the 3 inch unloading hose become heavy with material.
13) The unloader looks into the top of the tank wagon to check that material is being pumped from the tank wagon.
14) The unloader walks the line to the storage tank to check for leaks.
15) The unloader watches the pin move on the gauage at the storage tank to check that the material is being pumped to the proper tank.
16) The unloader checks the transfer line periodically to make sure that no one has changed the valve settings and that the line is not leaking.
17) The unloader remains in the area during the pumping of the material.
18) The unloader watches the tank wagon go empty and then closes the bottom valve on the tank wagon.
19) The unloader turns off the pump and immediately closes the discharge valve on the pump.
20) The unloader closes the valve on the storage tank first and then closes valves on the transfer line.

21) The unloader removes the unloading hose slowly from the tank wagons.
22) The unloader signs the manifest papers with the supervisor's approval and returns them to the driver.
23) If the filter on the suction side of the transfer pump should plug during unloading, the following steps are taken:

i) The unloader closes the valve on the suction side of the filter.
ii) The unloader turns off the transfer pump.
iii) The unloader opens the nitrogen valve on the top of the filter to blow material out of the filter.
iv) The unloader closes the valve on the nitrogen line.
v) The unloader closes the valve on the outlet of the filter.
vi) The unloader opens the bleeder valve to relieve the nitrogen pressure in the filter.
vii) The unloader removes the lid and cleans the filter dumping its contents into an openhead drum.
viii) The unloader replaces the lid.
ix) The unloader tests the filter gasket with nitrogen pressure.
x) The unloader opens the inlet and outlet valves on the filter.
xi) The unloader turns on the pump and continues unloading the tank wagon.

TABLE 1

GALLONS IN VOID SPACE

Inches	1A,1B	120	121-126	202-206	210-212
10	200	400	480	540	700
20	400	800	960	1080	1400
30	600	1200	1440	1620	2100
40	800	1600	1920	2160	2800
50	1000	2000	2400	2700	3500
60	1200	2400	2880	3240	4200
70	1400	2800	3360	3780	4900
80	1600	3200	3840	4320	5600
90	1800	3600	4320	4860	6300
100	2000	4000	4800	5400	7000
110	2200	4400	5280	5940	7700
120	2400	4800	5760	6480	8400
130	2600	5200	6240	7020	9100
140	2800	5600	6720	7560	9800

Unloader - Routine procedures

b) Unloading box trailers of hazardous waste at Location A. Location A is a 4 foot raised concrete pad 56x50 covered by a sheet metal roof (See Figure 5). The procedure for unloading box trailers at Location A is as follows:

1) The supervisor checks the manifest papers.

2) The unloader opens the doors on the trailer.

3) If there is no strong chemical odor, the unloader rolls the drums in the box trailer to the raised pad.

4) The unloader must sample drums designated by the supervisor as follows:
   i) The drum is vented by slowly loosening the 2 inch bung.
   ii) After the bung is removed, a ½ inch tube about 3 feet long is lowered into the drum.
   iii) The unloader takes a sample by sealing the top of the tube, then removing it from the drum and emptying its contents into a jar.
   iv) Samples are brought to the lab and inspected by the supervisor.

5) If the samples are approved by the supervisor, the unloader signs the manifest papers. With reliable and regular customers shipments are accepted and unloaded before sampling.

6) If there is a strong chemical odor in the trailer, the unloader consults the supervisor and awaits his instructions.

Unloader - Routine procedures

c) Pumping hazadous waste in drums at Location A to storage tanks. A pump centrally located on the raised pad at Location A is used to pump the liquid in the drums to storage tanks in Location B or C. Figures 2,4, and 5 show the pump, lines, tanks, and valves. The procedure for pumping the liquid in the drums is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in specified drums to a designated storage tank.
2) The unloader measures the void space in inches on the designated tank to check if the tank will hold the gallons of liquid in the drums. Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader closes the valve on the discharge of the pump at Location A.
4) The unloader walks the line from the drum storage area to the storage tank, opening the proper valves and closing unused valves attached to the line.
5) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
6) The unloader opens the valve on the storage tank.
7) The unloader slowly loosens the bung on the first drum.
8) The unloader places the charge pipe into the first drum with the valve on the charge pipe closed.
9) The unloader opens the valve on the discharge of the pump.
10) The unloader starts the pump.
11) The unloader opens the valve on the charge pipe.
12) The unloader opens the air bleeder valve on the pump until air is evacuated from the system.
13) The unloader closes the valve on the charge pipe after emptying each drum so that air will not be drawn into the system.
14) The unloader closes the valve on the charge pipe and then turns off the pump after two drums are pumped.
15) The unloader walks the line looking for leaks, and he also checks the pin to make sure that the material is being pumped to the correct tank.
16) The unloader continues to pump the specified drums.
17) The unloader closes the valve on the charge pipe after the last drum is emptied.
18) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
19) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.
20) The unloader rolls the empty drums to a trailer spotted at Location A.
21) If the filter on the suction side of the drum pump should plug during pumping the following steps are taken:
    i) The unloader removes the charge pipe from the drum allowing air to enter the filter to clean the liquid from the filter body.
    ii) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
    iii) The unloader opens the lid and cleans the filter dumping its contents into an openhead drum.
    iv) The unloader replaces the lid.
    v) The unloader places the charge pipe into a drum and closes

the valve on the charge pipe.
vi) The unloader opens the valve on the discharge of the pump and turns the pump on.
vii) The unloader continues to pump drums.

Unloader - Routine procedures

d) Charging viscous liquids in drums to small blending tank at Location A.
A 1000 gallon blending tank is used to hold liquids too viscous or thick to handle with the regular drum pump. The viscous contents of drums are dumped into a 4 x 4 box where they are pumped to the blending tank (See Figure 5). The procedure is as follows:

1) The unloader rolls the drum to a position in front of the dumping ramp.
2) The unloader checks the void space in the blending tank to make sure that it can hold the contents of the drum.
3) The unloader starts the dumping box pump setting valves so that the liquid will be pumped to the blending tank.
4) The unloader slowly loosens the 2 inch bung and removes it from the drum.
5) The unloader slowly pushes the drum over to the horizontal position on the dumping box ramp.
6) The unloader slowly removes the 3/4 inch bung by positioning himself on the grating beside the dumping box ramp.
7) The unloader removes solid material that may collect on the dumping box screen with a shovel placing it in an open-head drum.
8) The unloader takes a sample of the material in the tank when it is about 2/3 full and gives it to the supervisor.
9) The unloader dumps thinning material into the dump box, if instructed by the supervisor, to thin down the viscous liquids in the blending tank.
10) The unloader rolls the empty drums to a trailer spotted at Location A.

Unloader - Routine procedures

e) Pumping liquids in small blending tank at Location A to storage tanks in Location C.
Figures 4 and 5 show the location of the blending tank and storage tanks. The procedure is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in the blending tank to a designated storage tank in Location C.
2) The unloader measures the void space in inches on the storage tank to check that the tank will hold the gallons of liquid in the blending tank (usually 1000 gallons). Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader walks the line from the small blending tank area to the storage tank, opening the proper valves and closing unused valves attached to the line.
4) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
5) The unloader opens the valve on the storage tank.
6) The unloader turns on the pump at the blending tank.
7) The unloader opens the bottom valve on the blending tank.
8) The unloader looks into the manway of the tank to make sure that the material is being pumped from the tank.
9) The unloader walks the line to the storage tank to check for leaks.
10) The unloader watches the pin move on the gauge to check that the material is being pumped to the proper storage tank.
11) The unloader remains in the area during the pumping of the material.
12) The unloader watches the blending tank go empty and then closes the bottom valve on the tank.
13) The unloader turns off the pump and immediately closes the discharge valve on the pump.
14) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.

Unloader - Routine procedures

f) Transferring solid material remaining in drums after pumping at Location A to bins.
Bins are spotted at the southwest corner of the raised pad at Location A (See Figure 5). Solids remaining in the drums are dumped into these bins. The procedure is as follows:

1) The unloader removes the lid of the drum. If it is a tighthead drum, he uses a drum cutter to remove the head of the drum.

2) The unloader dumps the solid contents of the drum into a bin spotted at Location A by tipping the drum and leaning its top rim against the lid of the bin.

3) The unloader closes the lid of the bin when the solid level is about 6 inches from the top.

3) Tractor driver

Some shipments of drums of hazardous waste arrive in trailers which are not the same height as the raised pad at Location A. The tractor driver unloads the drums form the trailer and hauls them to the raised pad.

The tractor driver also hauls the bins containing solid material from drums at Location A to the solids blending bin a Location D (See Figure 1). Routine procedure are as follows:

a) Unloading trailers of hazardous waste with the tractor.

b) Transfer of bins from Location A to Location D. Detailed procedures for (a) and (b) are attached.

4) Laborer

Laborers assist tractor drivers and unloaders in unloading box trailers and pumping drums. Their efforts are regularly directed by supervisors, unloaders or tractor drivers. They also dig solids which collect in the storage tanks and stills during processing. The routine procedures are as follows:

a) The laborer rolls drums from a box trailer to the tractor bucket or the raised pad at Location A.
b) The laborer assists the unloader in pumping drums at Location A by opening bungs on designated drums or transferring the charge pipe from one drum to another which is already opened.
c) The laborer assists the unloader in changing viscous liquids from drums to the small blending tank by rolling drums to the dump box ramp or dumping their contents into the dump box.
d) The laborer assists the unloader in transferring solids remaining in the drums to the bins. He cuts out the heads of drums if needed and dumps their contents into the bins.
e) The laborer rolls empty drums to the spotted trailer.
f) The laborer digs solids which collect in stills and storage tanks during processing. The procedure is as follows:

i) The supervisor inspects the tank or still and signs his name on the digging sheet.
ii) The laborer positions the breathing apparatus near the tank.
iii)The laborer checks that both breathing air cylinders are charged.
iv) The laborer puts on the protective clothing, boots, and gloves.
v) The laborer enters his name, time, and the name of the person watching him while he is inside digging the tank.
vi) The laborer turns on the air cylinder and sets the rotameter to 15-20, which should last 30 minutes.
vii)The laborer places the protective breathing helmet over his head and face. He makes sure that he feels the flow of fresh air in the helmet.
viii)The laborer enters the tank using a spark-proof shovel to dig the solids.
ix) The laborer immediately exits the tank if he senses a loss of air, if he feels dizzy, or if he feels a burning sensation on his skin.
x) The laborer shovels the solids to a bin or an openhead drum.
xi) When the job is completed, the laborer enters the time on the digging sheet.
xii)If the person watching the laborer sees the rotameter fall or the pressure gauge on the air cylinder reach 200, he notifies the laborer to exit the tank. The laborer removes the helmet, changes the cylinder, then continues digging.

(iii) EMERGENCY EQUIPMENT

The list of emergency equipment is as follows:

1. Hand - held dry chemical fire extinguishers - 45
2. Wheeled dry chemical engines - 2
3. Foam units - 3
4. Caterpillar tractor - front end type - 1
5. Dump trucks - 2
6. Rubber tine back hoe - 1
7. Vacumm trucks (24 hour call) - 8
8. Portable pumps - 3
9. Sprinkler system - 2
10. Breathing apparatus and suits - 2
11. Communications system.

1. The hand-held dry chemical fire extinguishers are ABC type. They contain 20 pounds of dry chemical. Their location throughout the plant is shown in Figure 6. Hoosier Fire Equipment, Inc., Valparaiso, Indiana, regularly maintains and tests these extinguishers. The hand-held units are used on small fires within three feet of the base of the flames. All units are activated by a single valve for use by one man.

2. The wheeled dry chemical engines are ABC type. They contain 145 pounds dry chemical. The location of these two units is shown in Figure 6. Hoosier Fire Equipment regularly maintains and tests these extinguishers. The engines are specifically engineered for "one man" operation. They are designed to pass through normal doorways and are maneuverable across rough or broken terrain to insure accessibility to the fire. The engines are activated by a single valve and have an integral gauge for visual inspection. When fire occurs, the engines are wheeled to within approximately 40 feet upwind of the fire. The nitrogen valve is opened fully and the hose is uncoiled. The nozzle is opened and directed at the base of the flame with a side to side motion. Straight flow is used when within 10 feet of flames. The engines are designed for use on small to moderate fires.

3. The foam systems are HL-6 hand line foam nozzle type for use with National hand line foam liquid. With a water capacity of 60 gpm at 100 psi and a 3% concentration of foam liquid, the system produces 600 gpm of foam with a long range stream of 65 to 70 feet. The location and range of the three units are shown on Figure 7. Each system has an independent source of water. When foam nozzles are used, particular care should be taken to apply the foam as gently as possible. For straight stream use, the foam should be banked off the side of a wall or other obstruction. Foam can also be rolled onto the surface by hitting the ground in front of the spill or fire. Care should be taken to minimize the mixing of the foam and fuel. The system is designed for single man operation on moderate to large chemical fires.

4. The caterpillar tractor is a front end type and is on the site 24 hours a day. It is owned and operated by Leon Wells who is on 24 hour call. The unit is used to apply and remove sand for containment and cleanup of a spill. The spent sand is loaded into a dump box and hauled to Gary Land Development. Approximately 200 yards of sand are availble on the site to control any spill.

5. Two dump trucks capable of hauling 6 yards of sand each are on the site. The trucks are owned and operated by Leon Wells who is on 24 hour call. They are used to haul sand to the spill area.

6. A rubber tire back hoe, owned and operated by Leon Wells, is on the site. It is available 24 hours each day. Since it is very mobile, it is primarily used to apply and remove sand for small spills.

7. Eight vacuum trucks, capacity 5000 gallons each, are on call 24 hours each day. Mr. Frank owns and operates these trucks. which are approximately one hour travel time away from the plant.

8. Three portable, positive displacement pumps are available to pump liquid spills. Their capacity is 90 gpm. and hose lengths of 200 feet can be used.

9. Two sprinkler systems are installed at the plant. One is in the reclaim facility which is manually activated; the other is in the Epoxol facility which is automatically activated. See Figure 7 for these locations. Each has an independent water source.

10. Two breathing apparati are available in the plant. Each unit uses a compressed air cylinder. One unit with a total head covering is connected by 50 feet of hose to a cylinder. Availiable breathing time per cylinder is 30 minutes. The other unit with a face covering is totally self-contained, and has an available breathing time of 15 minutes. Complete body suits are available with each unit. They are both OSHA approved.

11. The communications system consists of seven phones place in areas throughout the plant. Four phones are capable of interplant communications only. They are located in the reclaim, additive manufacturing, epoxidation, and additive blending facilities. The other three phones can be used for interplant or outside calls. They are located in the lab, warehouse, and change room facilties. Figure 8 shows these location.

FIVE

WAREHOUSE

TWO

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iv) Monitoring equipment and its operation.

The waste handling systems do not involve any automatic control systems. Equipment consists of pumps, mixers, filters, and manually operated valves. Power failures cause only cessation of processing and do not result in any release. All loading, unloading, and processing is operator attended.
The monitoring equipment for the vessels or stills is as follows:

1) Temperature indicates with direct readout show the following temperatures:

a) Still pot temperature.
b) Still vapor temperature.
c) Cooling water temperature on the condenser outlet on each still.

2) These inidicators are used to observe the temperature of the still while solvents of hazardous wastes are distilled. If the temperatures are above normal, the still is shutdown by removing the heat source and by properly venting the still. The supervisor or the emergency coordinator is notified. Normal operating temperatures are 100-280F.
3) Pressure indicators with direct readout indicate the pressure on each still. Lower pressures permit the distillation of solvents at lower temperatures. If pressures above normal are observed, the still is shutdown by removing the heat source and by properly venting the still. The supervisor or the emergency coordinator is notified. Normal operating pressures are atmospheric pressure to 26 inches vacuum.
4) Dial indicators with direct readout of pressure show the amount of steam pressure applied to the still heating coil to distill the solvents.
5) The temperature and pressure indicators are regularly maintained by the Westinghouse Corp.

The storage tanks are fitted with direct reading gauges which indicate the amount of material in the tank. The gauges are counterweight float type. When the counterweight is at the bottom of the tank, the tank is full. When the counterweight is at the top, the tank is empty. These gauges are inspected and maintained by operating and maintenance personnel.

v) Communications system

The communications system consists of seven phones placed in areas through the plant. Five phones are capable of interplant communications only. They are located in the reclaim, warehouse, additive manufacturing, epoxidation, and additive blending facilities. The other two phones can be used for interplant or outside calls. They are located in the lab and change room facilities. Interplant numbers are attached to the phones at each facility. Emergency numbers are attached to phones in the lab and change room. Figure 8 shows these locations.

vi) Response to fires or explosions

The immediate response to an imminent or actual emergency is the notification of the emergency coordinator. He implements the contingency plan if needed. If the fire or explosion is small, the plant personnel at the direction of the emergency coordinator eliminate the emergency.

AMERICAN CHEMICAL SERVICE, INC.
420 South Colfax
Colfax Ave. at C & O RR.
P.O. Box 190
Griffith, IN 46319

Telephone - Area Code (219) 924-4370

EMERGENCY COORDINATOR -
JAMES MURPHY - PRIMARY
1524 Heather Court
Munster, IN 46321
Telephone (Home) - (219) 924-9835
(Work) - (219) 924-4370
(Beeper) - (219) 736-7000 -03745

JOHN MURPHY
601 Stratford Terrace
Valparaiso, IN 46383
Telephone (Home) - (219) 464-2076
(Work) - (219) 924-4370
(Beeper) - (219) 736-7000 -03746

TOM MURPHY
800 E. 38th Pl. Apt. 2E
Griffith, IN 46319
Telephone (Home) - (219) 838-0636
(Work) - (219) 924-4370

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vii) Response to ground water contamination

The immediate response to ground water contamination is the notification of the emergency coordinator. He implements the contingency plan if needed.

viii) Shutdown of operations

The shutdown of operations for the reclaim facility at Location B is as follows:

a) The operator removes the steam pressure from the heating coil on each still.

b) Each still is restored to atmospheric venting.

c) Cooling water pumps and deep well pumps are allowed to continue operating.

d) All storage tank valves that were opened for process use are closed.

e) All electrical mains for the reclaim facility are turned off except for the cooling and deep well systems. These mains are as follows:

1) Vacuum pumps

2) Recirculating pumps

3) Vacuum feed water pumps

4) Product pumps

5) Receiver pumps

6) Relux pump

7) Charge pumps

8) Residue pump

9) Tank farm transfer pumps

10) Ralco outlets

11) Reclaim transfer pumps

12) 101, 104, #9, #16 agitators

13) Heater fan

14) Ventilating fans

The shutdown of the operations at Location A & C is as follows:

a) The unloader ceases all unloading operations.

b) The unloading pumps are turned off.

c) Valves on tank wagons, storage tanks, and pumps are closed.

d) Tank wagons and trucks with box trailers are instructed to leave the plant if needed.

e) Electrical mains for the pumps and agitators in Location A and C are shut off in the warehouse.

AMERICAN CHEMICAL SERVICE 1 JUNE 82

FIGURE 1

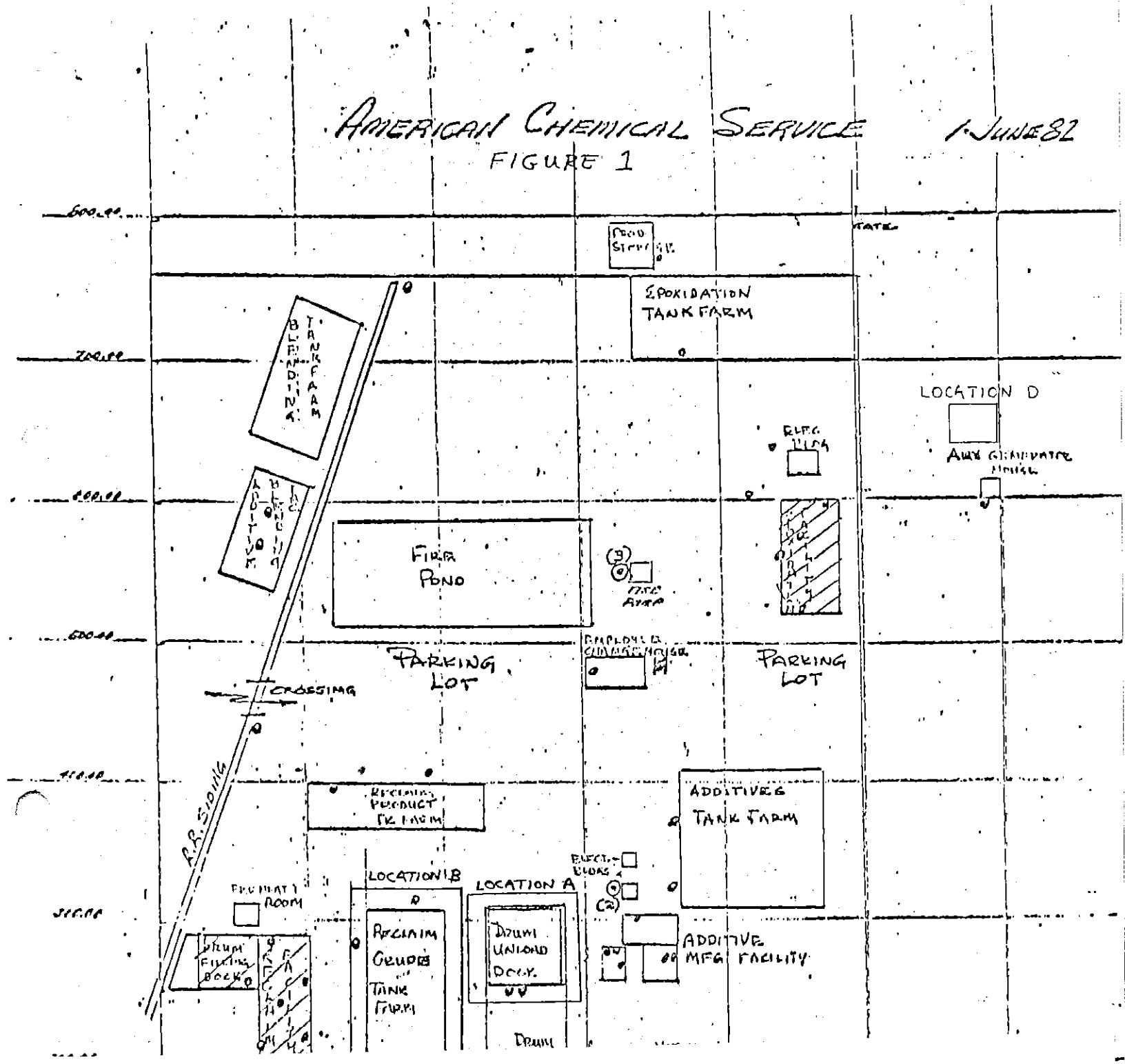
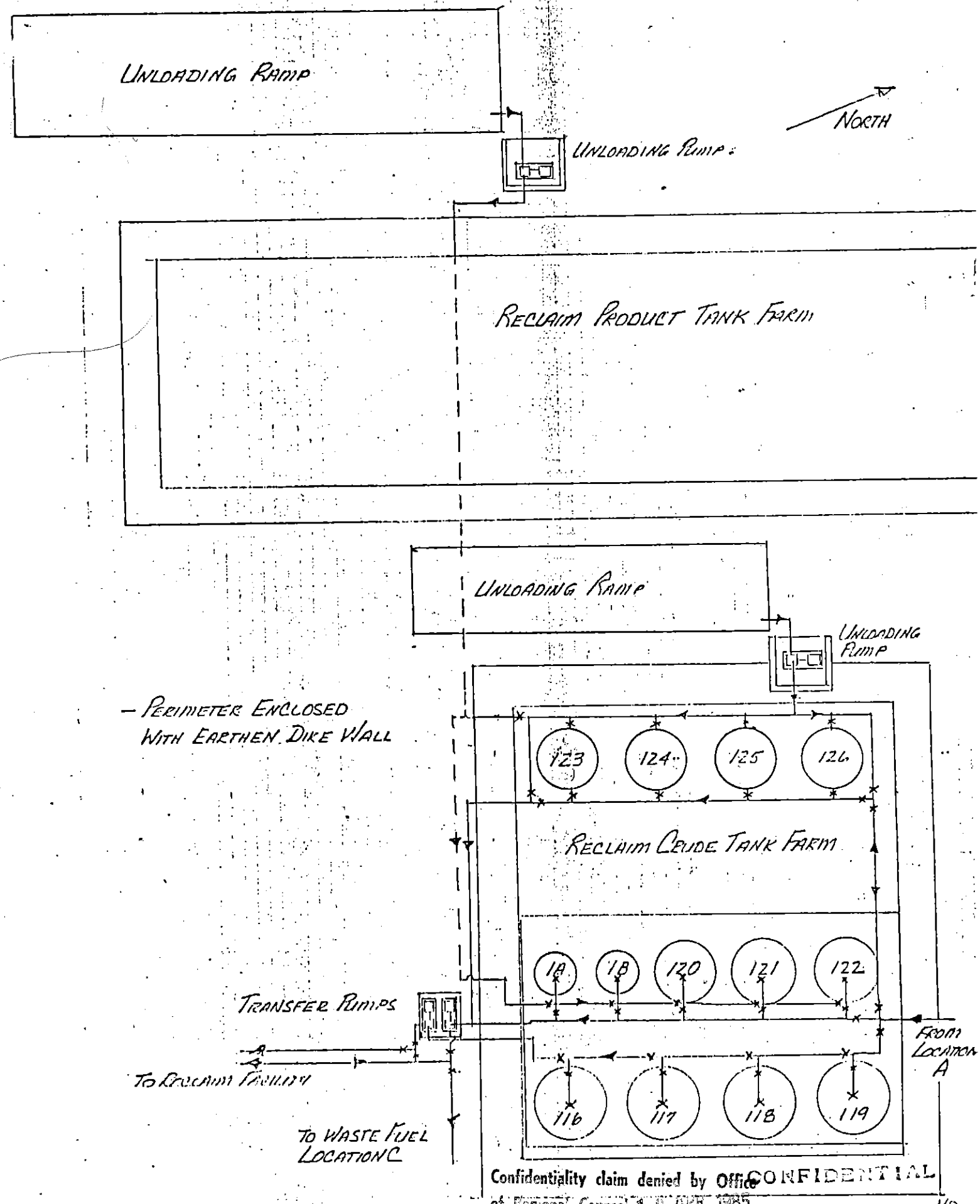


FIGURE 2
RECLAIM CRUDE LOCATION L
SCALE 1" = 20'

HUG 82



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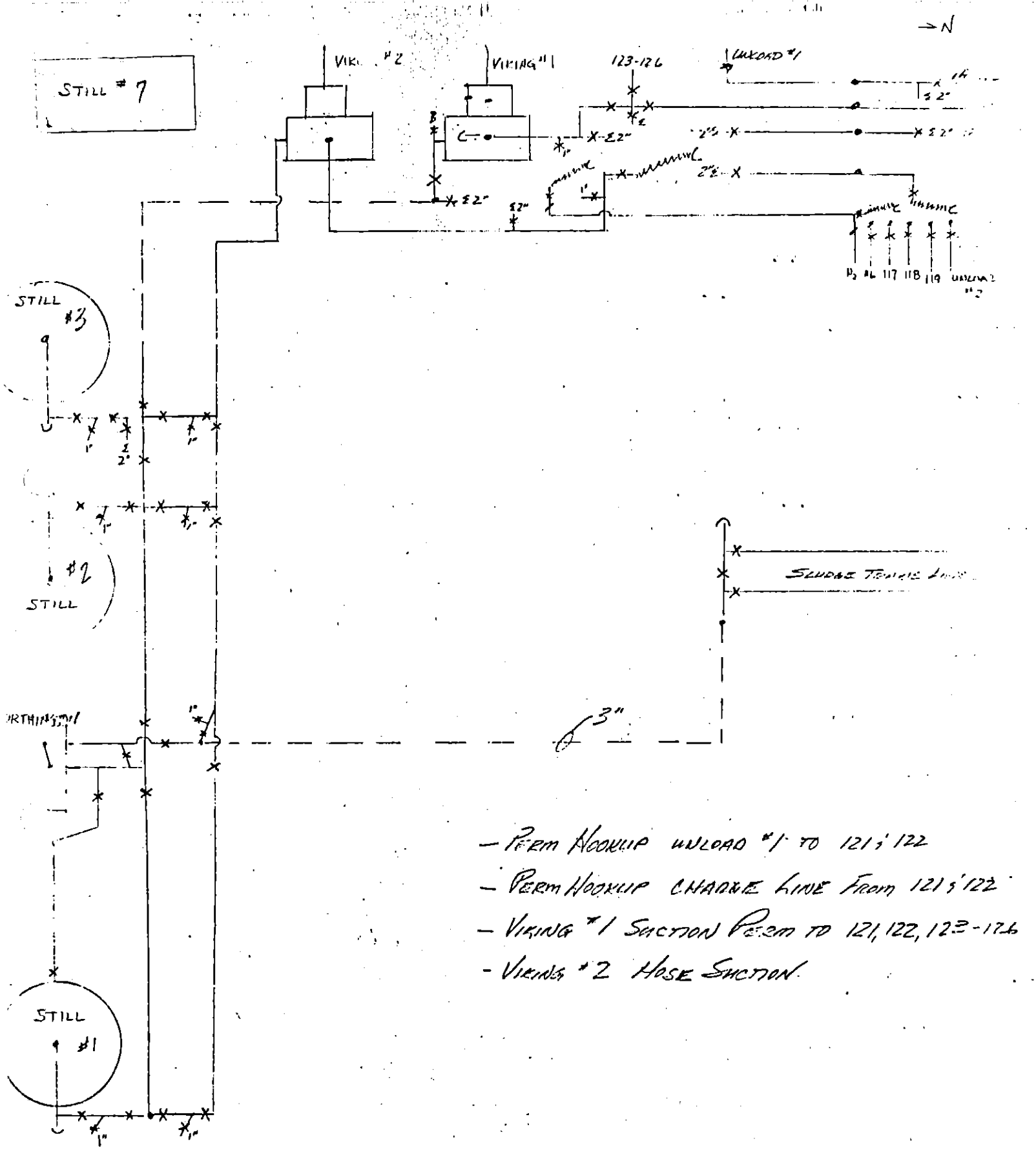

FIGURE 3

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20-2-4C

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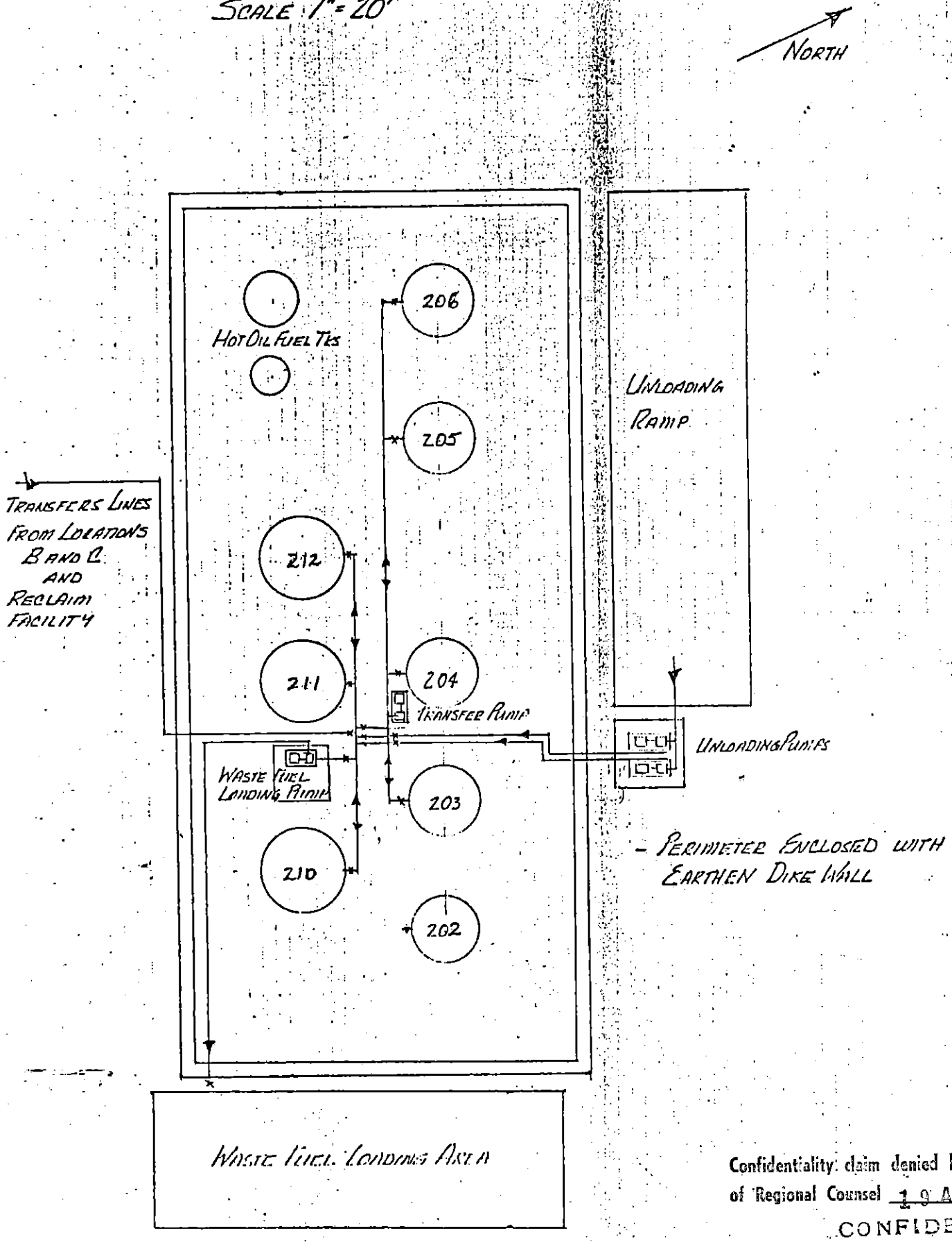
AUG 82

FIGURE 4

WASTE FUEL LOCATION C

SCALE 1" = 20'



- PERIMETER ENCLOSED WITH EARTHEN DIKE WALL

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FIGURE 5

DRUM UNLOADING DOCK LOCATION A

SCALE 1" = 20'

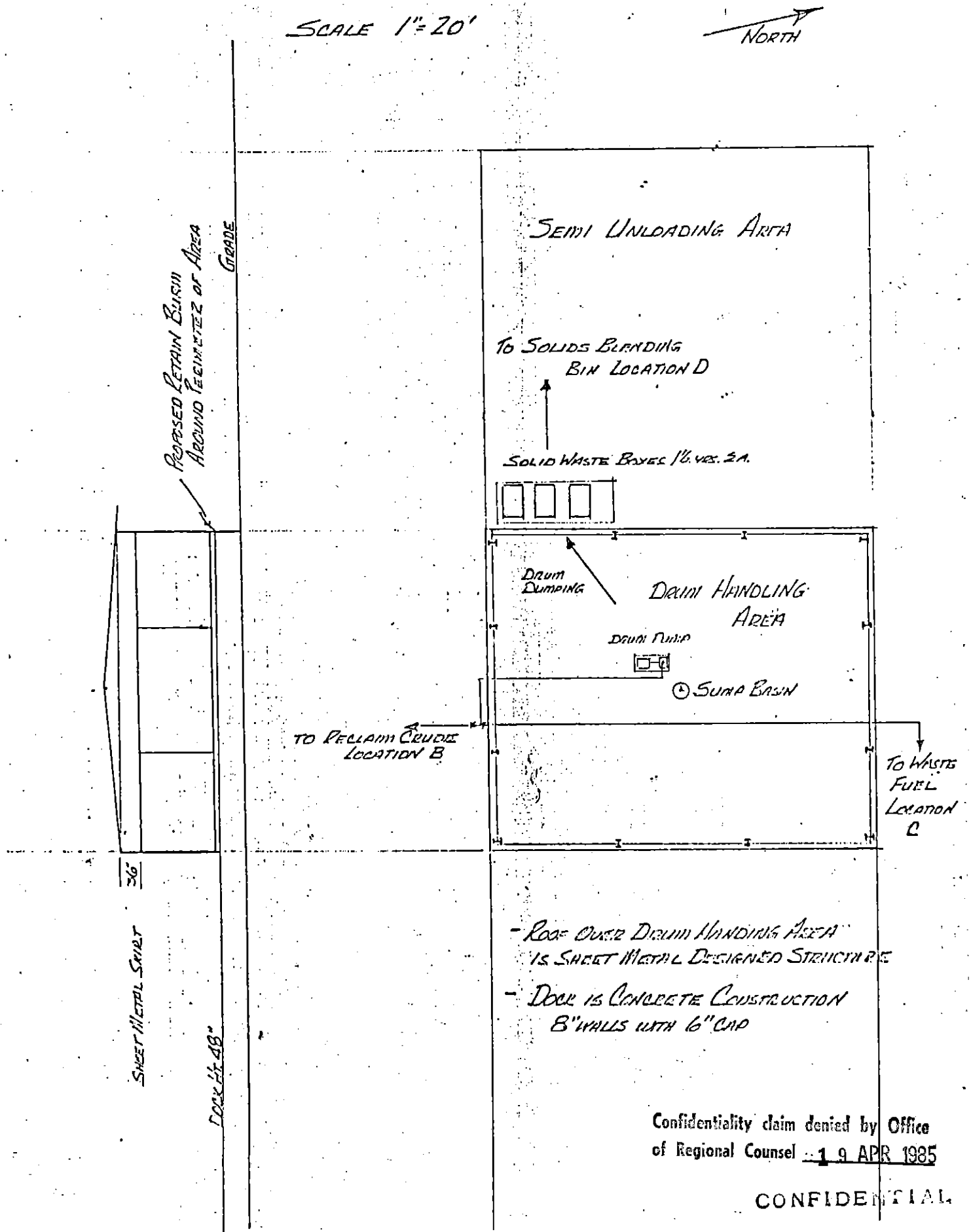

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FIGURE 6

FIRE PREVENTATION PLAN

MARCH 80

- FOAM SYSTEM
- FIRE EXTINGUISHER
- DRY CHEMICAL WHEEL UNITS
- SPRINKLER BUILDING
- SMOKING AREA

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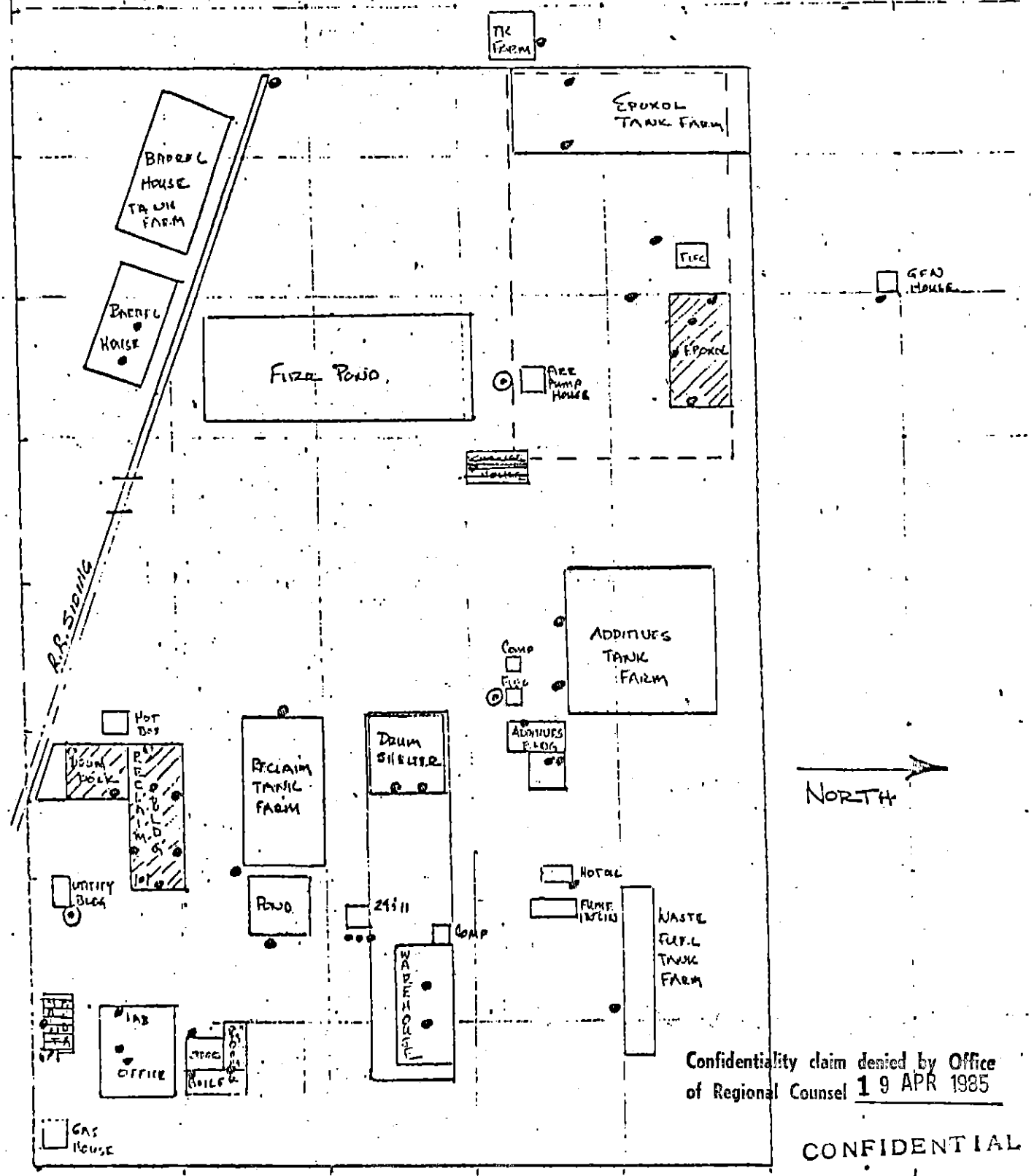

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FIGURE 7

FIRE EXTINGUISHER & FOAM SYSTEM LOCATIONS

(2) FOAM SYSTEM
• FIRE EXTINGUISHER
[0] FOAM WHEEL UNITS
BUILDINGS WITH SPRINKLER SYSTEMS

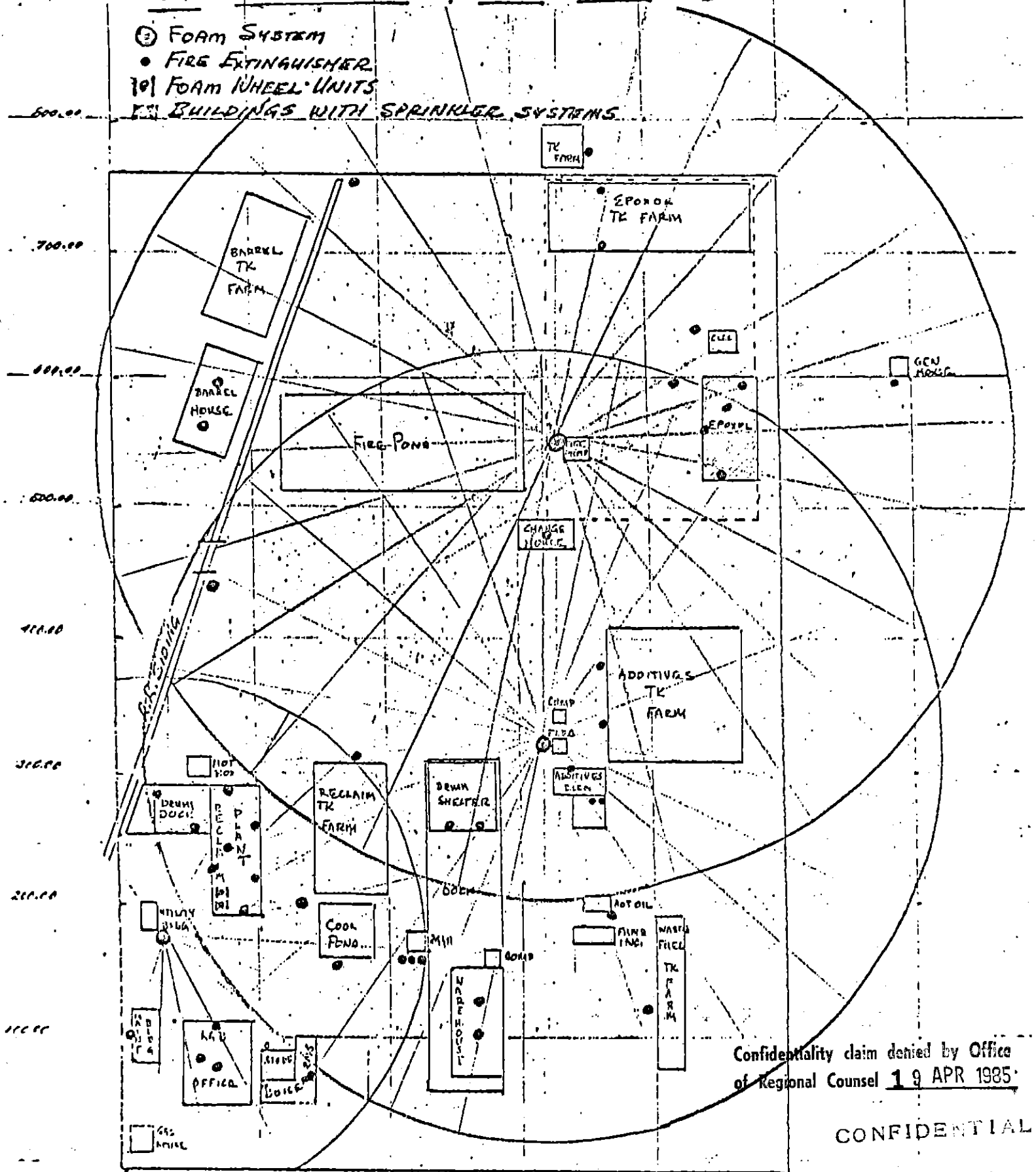

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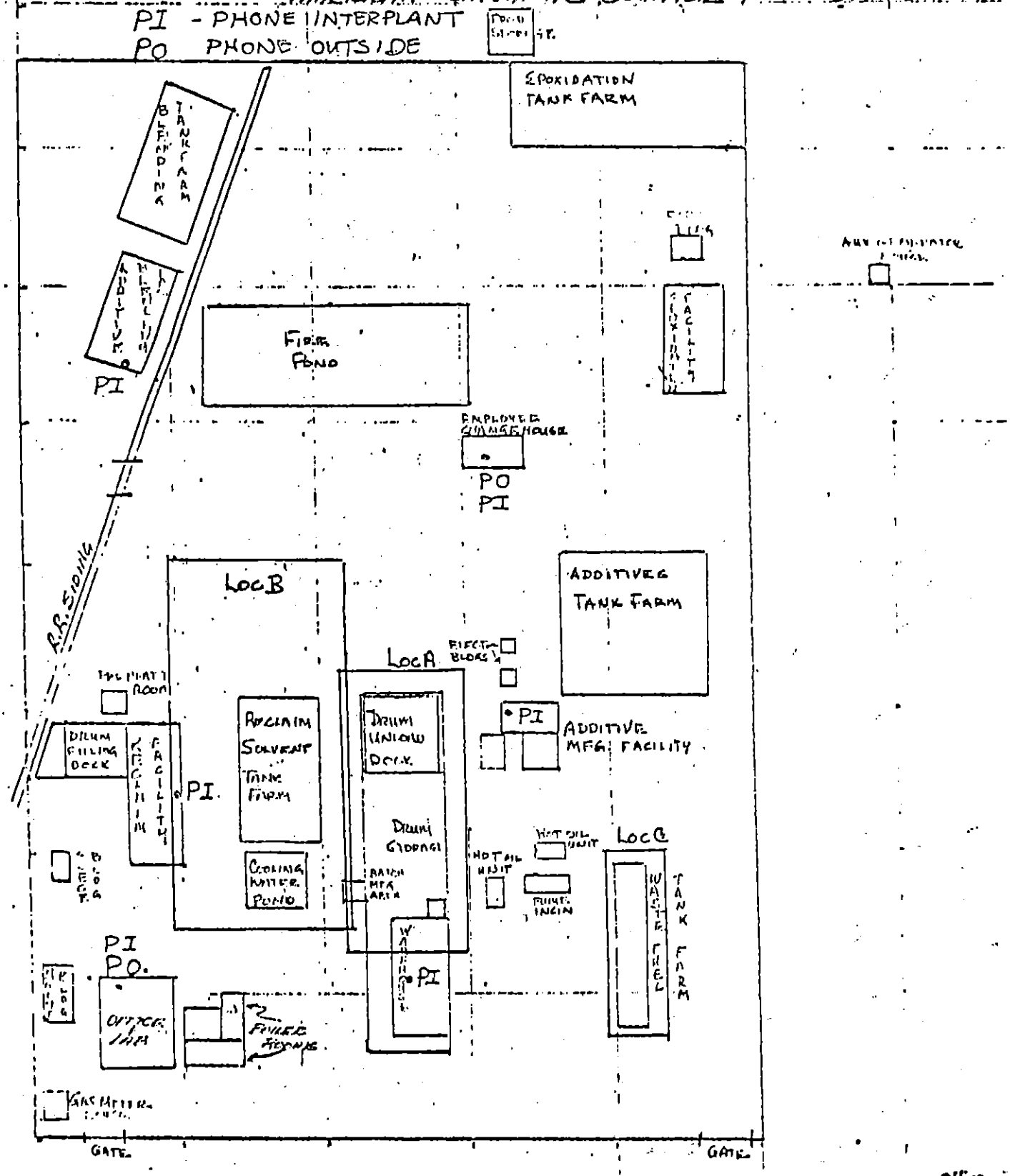
FIGURE 8:- COMMUNICATIONS SYSTEM

AMERICAN CHEMICAL SERVICE, INC.

PI - PHONE INTERPLANT

PO PHONE OUTSIDE



SCALE 1" = 100'

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46

OPERATOR

I have read the following routine procedures. Sign and date.

Bob Mauck 2-22-83

M.J. Noga 2-22-83

Dick Colgan 2-22-83

[illegible] 2-22-83

[illegible] 4.5.83

[illegible] Schmidt 3/9/83

Confidentiality claim denied by Office of Regional Counsel 19 APR 1985

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UNLOADER

I have read the following routine procedures. Sign and date.

Bob Mauck 3/9/83

W. Schmidt 3/9/83

T. Dimpfl 3/31/83

G. Murphy 4.5.83

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UNLOADER – NO TANK WAGONS

I have read the following routine procedures. Sign and date.

Frank Price 3-15-83

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TRACTOR DRIVER

I have read the following routine procedures. Sign and date.

Bob Mauck 3/9/83

[redacted] 3/9/83

Alvin Whitaker 3/14/83

Frank Price 3/17/83

T. Dunfee 3/21/83

D Kapcsa 4-5-83

G Murphy 4.5.83

Confidentiality claim denied by Office of Regional Counsel 19 APR 1985

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LABORER

I have read the following routine procedures. Sign and date.

Bob Maick 3/9/83
Fred's Cole 3/9/83
Alan Whitaker 2/14/83
Carl G. Govert 3/21/83
T. Dunfee 3/31/83
T. Price 3/31/83
R Roadruck 4-5-83
D Kapica 4-5-83
G Murphy 4.5.83

Tractor driver - Rountine procedures

a) Unloading trailers of hazardous waste with the tractor. Trailers, that are not the same height as the raised pad, are usually spotted in the area west of Location A. Drums are transferred by the tractor driver to the raised pad. The procedure is as follows:

1) At the direction of the supervisor the tractor driver opens the doors of the trailer.

2) The tractor driver positions the tractor at the rear opening of the trailer with the drum bucket flush with the trailer floor.

3) If there is no strong chemical odor, the tractor driver rolls 6 drums into the tractor bucket.

4) The tractor driver slowly raises the bucket about 6 inches and backs away from the trailer.

5) When the bucket is about 5 feet from the trailer, the tractor driver lowers the bucket to 1 foot from the ground.

6) The tractor driver transports the drums to the raised pad to unload them.

7) When the supervisor approves the drums, the tractor driver rolls them to a designated area.

8) The tractor driver continues to unload the trailer until it is empty.

Tractor driver - Routine procedures

b) Transfer of bins from Location A to Location D.

Bins are filled by the unloader with solid waste from drums at Location A. The supervisor instructs the tractor driver to haul the full bins to the blending bin at Location D. The procedure is as follows:

1) The tractor driver checks the level in the bin, which should be about 4 to 6 inches from the top.

2) The tractor driver hauls the bin with the forks of the tractor to the solids blending bin at Location D at a very slow speed.

3) The tractor driver positions the bin over the diked area about 4 feet off the ground tilting the bin slightly forward.

4) The tractor driver pulls the lever on the bin causing it to dump its contents into the sand dike.

5) The tractor driver resets the bin to the upright locked position.

6) The tractor driver returns the empty bin to Location A.

AMERICAN CHEMICAL SERVICE, INC. IND 016 360 265

TANK STORAGE INFORMATION

1.) New layout drawings were made for the 3 waste handling areas.

A.) Drum Unloading Dock Location A
Drawings #1 and #2

B.) Reclaim Location B
Drawings #3 and #4

C.) Injectant Storage Location C
Drawings #5 - #8

The layout drawings address the buffer zone requirements and the tanks are numbered to key into the individual tank drawings.

2.) New individual tank drawings were made for each waste storage tank. The drawings (#9 - #29) indicate the following information:

A.) Design Standards
B.) Tank deminsions
C.) Capacity
D.) Shell Thickness
E.) Safety Controls
F.) Waste Stored
G.) Maximum Waste Specific Gravity per measured wall thickness.

Drawing #30 is a sample calculation showing how the Maximum Waste Specific Gravity per measured wall thickness was developed.

3.) Drawings #1, #3 and #5 also reflect the process flow and piping diagrams in the three waste handling locations. There are three different feed systems for transferring waste:

A.) Tank truck unloading to storage
B.) Drum unloading to storage
C.) Intra plant waste transfer

A. Tank truck unloading to storage:

In location B (Reclaim) there are two waste unloading sites. Location C (Injectant Storage) has four unloading sites. The procedure for unloading is the same at all six sites. After the tank truck is approved for unloading, the unit is located at one of the six sites. A 2" or 3" rubber hose is attached to the unloading valve with a quick connect fitting. The unloader checks the valves and storage tank outages. The top hatch on the tank wagon is opened. The waste material flows from the tank wagon unloading valve thru the rubber hose (10' to 15' long) into a filter. The material then flows into the suction of the positive displacement pump. The pumping rate is 90 GPM at 50 PSI discharge pressure. At the discharge of the pump the material flows in permanent schedule 40 steel piping to

the appropriate storage tank. Upon completion of the waste unloading the lines are cleared with nitrogen and the unloading hose is disconnected.

B. Drum unloading to storage:

Drum unloading of waste materials is done at Location A. Material is removed from the drums by inserting a 2" drum out pipe into the bung of the drum. The drum out pipe is connected to a 20 foot long 2" rubber hose. The hose is connected to a filter. The filter connects to the suction of a positive displacement pump. The pump is rated at 90 GPM at 50 PSI discharge pressure. The discharge of the pump connects to the storage tanks with permanent 2" schedule 40 steel pipe. Material unloaded at Location A is transferred to either Location B (Reclaim) or Location C (injectant Storage).

The process of pumping out drums begins with the checking of valves and tank outages. With the drum bungs removed the drum out pipe is inserted and the pumping begins. The pumping rate varies depending upon the viscosity of the waste material. The pumping lines are cleared with nitrogen after all the drums are emptied.

C. Intra plant waste transfer:

Waste material is transferred from one location to another by pumping. The pumps used are rated at 90 GPM at 50 PSI discharge pressure. The suction connection to the transfer pumps utilizes either permanent schedule 40 steel piping or 2" rubber hose. The discharge piping is permanent 2" steel pipe. After valving and tank outages are checked the transfer pumping begins and the lines are cleared with nitrogen after each pumping.

4.) A drawing of the Tank Overfill Safety Alarm (#31) is attached.

All 21 waste storage tanks are equipped with a Brooks Omnitrol Liquid Level Switch (#616-TS-EP/VP). The switches have a manual checker (#947) to test the integrity of the system without overfilling the tanks.

If an overfill situation should occur an audible signal (Federal Signal Horn #31x) and a visual signal (Appleton Light VA-2050G-A) will be activated.

We believe interlocking the high level alarms with feed cut-off devices to be unsafe and therefore have made no provisions for their installation.

5.) Drawing #32 shows the Tank Safety Vent System. The waste storage tanks are not operated at conditions in excess of + or - .5oz. therefore no pressure controls have been installed. The vapor space on the waste storage tanks is controlled with the following equipment:

A.) Varec Tank Liquid Sealed Gauge (BM3480).
B.) Varec Tank Breather Valve (Fig 2010-51) with settings of ½oz. pressure and ½oz. vacuum
C.) Varec Tank Flame Arrestor (#13-5000-02-01-01)

A. The Varec Tank Liquid Sealed Gauge provides an accurate means of measuring the level of liquid in the tank and a liquid seal to prevent vapors from escaping the tank opening. The cable attaching the internal float to the outside counter weight passed through an oil bath and is wiped clean at either end of the reservoir.

B. The Varec Breather valve maintains a positive and negative seal of ½oz. on the tank vapor space. During the pumping operations either addition (positive pressure) or reduction (negative pressure) in the liquid level will cause the valve to open for pressures in excess of + or - ½oz. The normal tank breathing with changes in ambient temperatures is also controlled with the breather valve. The valve is sized to provide adequate emergency venting to prevent the tank rupturing.

C. The vapor emissions of the waste storage tank pass through the Varec Flame Arrestor. The throughput and breathing emissions which are allowed to vent through the breather valve cannot, if ignited, cause the waste storage tank to also ignite.

6.) In 1985 tank thickness readings were taken for all 21 waste storage tanks. The equipment used was a Panametrics Ultrasonic Thickness Gauge (Model 5226). From the readings, maximum waste specific gravities were developed for each storage tank (Refer to Sample Minimum Thickness Calculation). This program is repeated annually. A corrosion factor of .09" or 3/32" was selected because the maximum waste specific gravity (1.6) and the largest storage tank (33' height x 10' diameter) would require a minimum wall thickness of .09" to secure the material.

The inspections of the Tank Safety Vent System is conducted annually. The inspection includes the following:

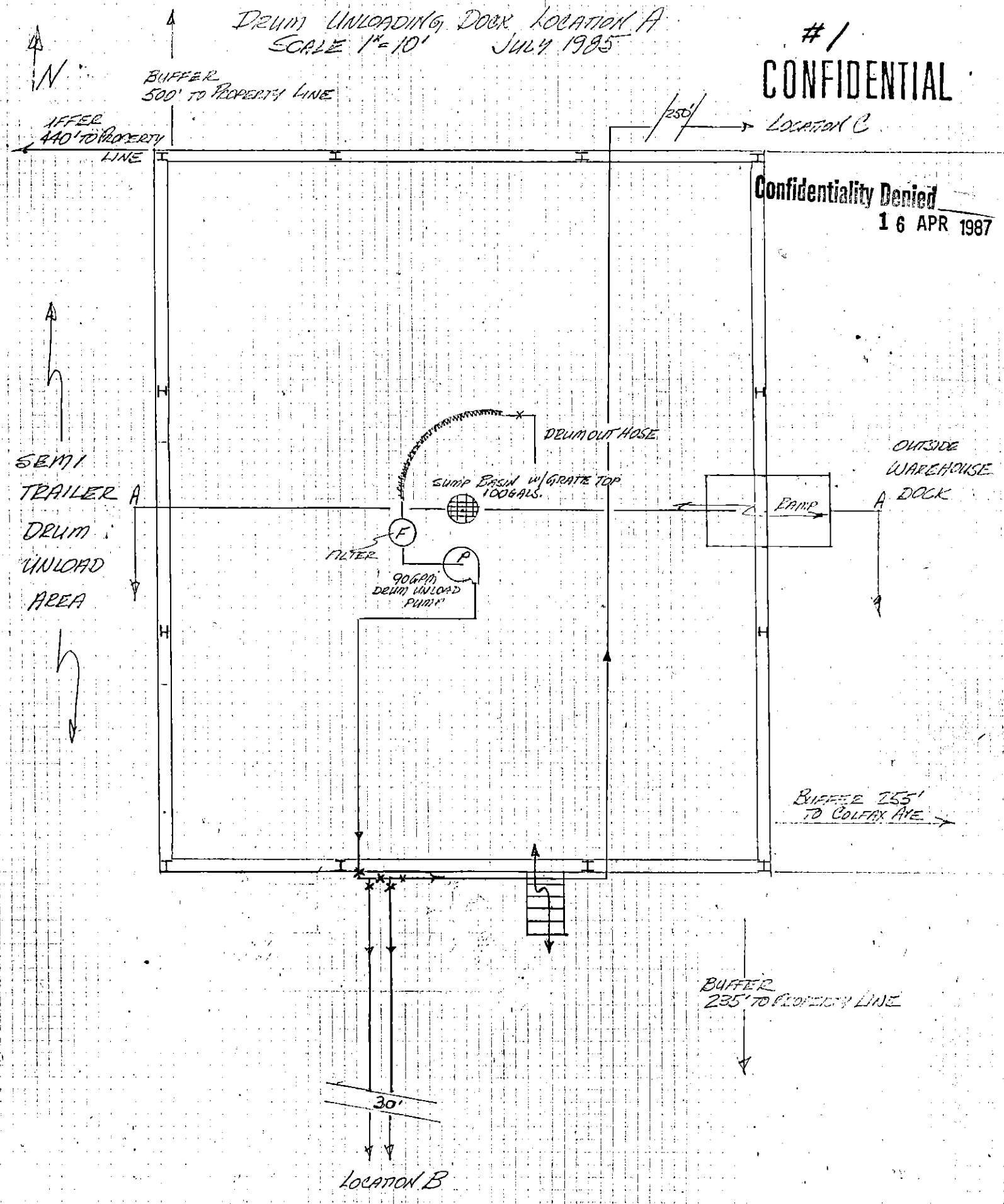
A.) Internal inspection of the breather assembly (seats, seals and springs)

B.) Internal inspection of the flame arrestor (plate spacings).
C.) Inspection of the sealant tank gauge (level and condition).

There are daily inspections by plant personnel to insure the integrity of the waste storage tanks and related systems. Listed below are the items checked:

A.) The condition of the tank farm dike walls
B.) Signs of tank leakage or overfill
C.) Signs of leaking tank fittings (flanged or threaded joints)
D.) Tank valve packing leaks
E.) Tank agitator packing leaks
F.) Pump packing or mechanical seal leaks
G.) Manual checkers on the overfill safety systems (checked monthly)
H.) Condition of all fire fighting equipment (Extinguishers and foam units)

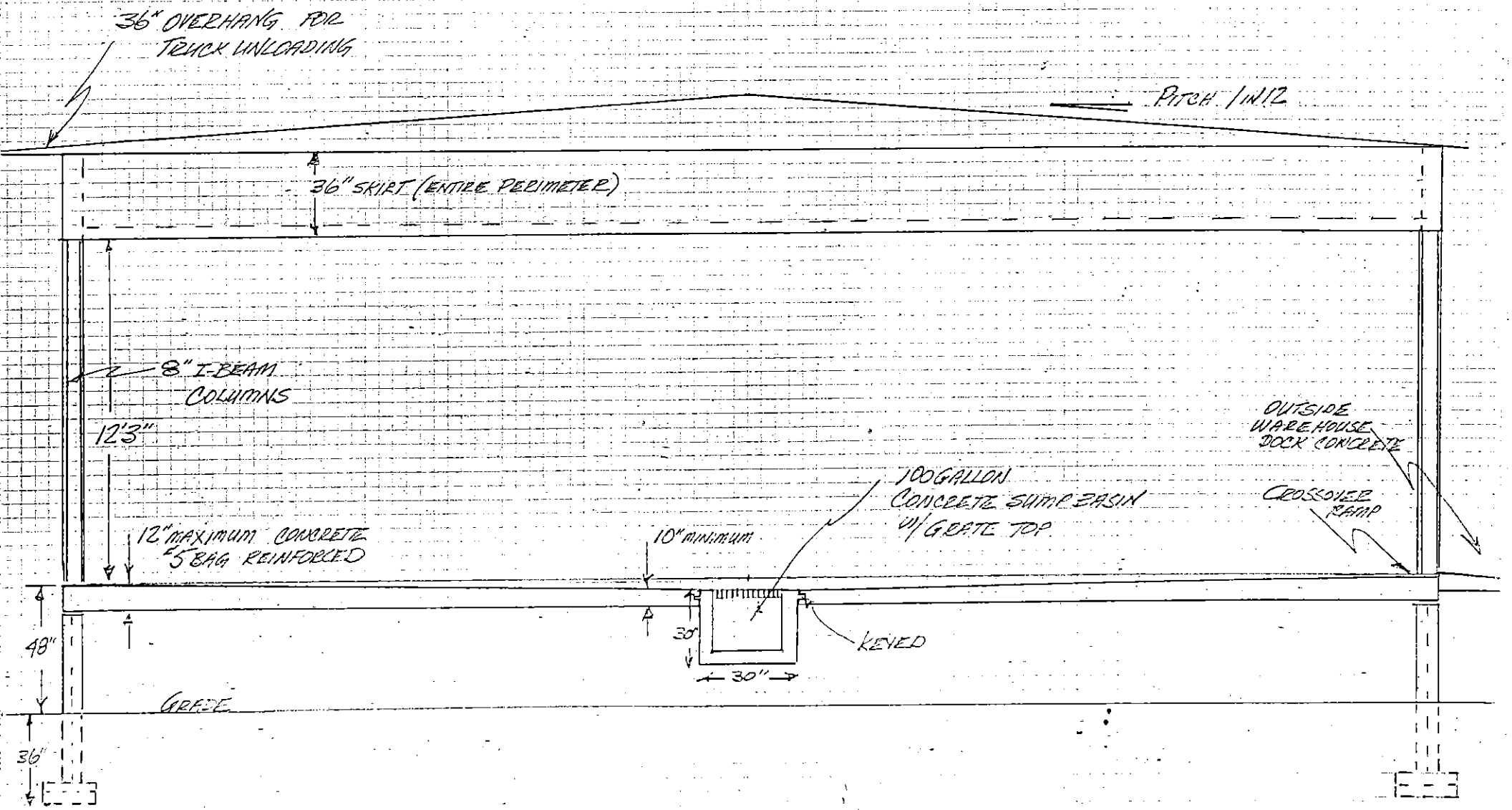
The daily inspections are recorded by date, time and initialed by plant personnel.


DRUM UNLOADING DOCK LOCATION A
SCALE 1"=10'
JULY 1985
#1
CONFIDENTIAL
N
BUFFER 500' TO PROPERTY LINE
BUFFER 440' TO PROPERTY LINE
250'
LOCATION C
Confidentiality Denied
16 APR 1987
SEMI TRAILER DRUM UNLOAD AREA
DRUM OUT HOSE
SUMP BASIN w/GRATE TOP 100GALS.
OUTSIDE WAREHOUSE DOCK
RAMP
FILTER
90GPM DRUM UNLOAD PUMP
BUFFER 255' TO COLFAX AVE.
BUFFER 235' TO PROPERTY LINE
30'
LOCATION B

SEC AA LOCATION A
SCALE 1" = 5' July 1985

#2

DRUM UNLOADING DOCK IS COVERED WITH AN ALANTIC PRE ENGINEERED METAL STRUCTURE. DESIGN LOADS ARE 30 psf (SNOW) + 20 psf (WIND). THE ROOF AND SKIRT METAL IS 26 GAGE GALVINIZED SHEET.



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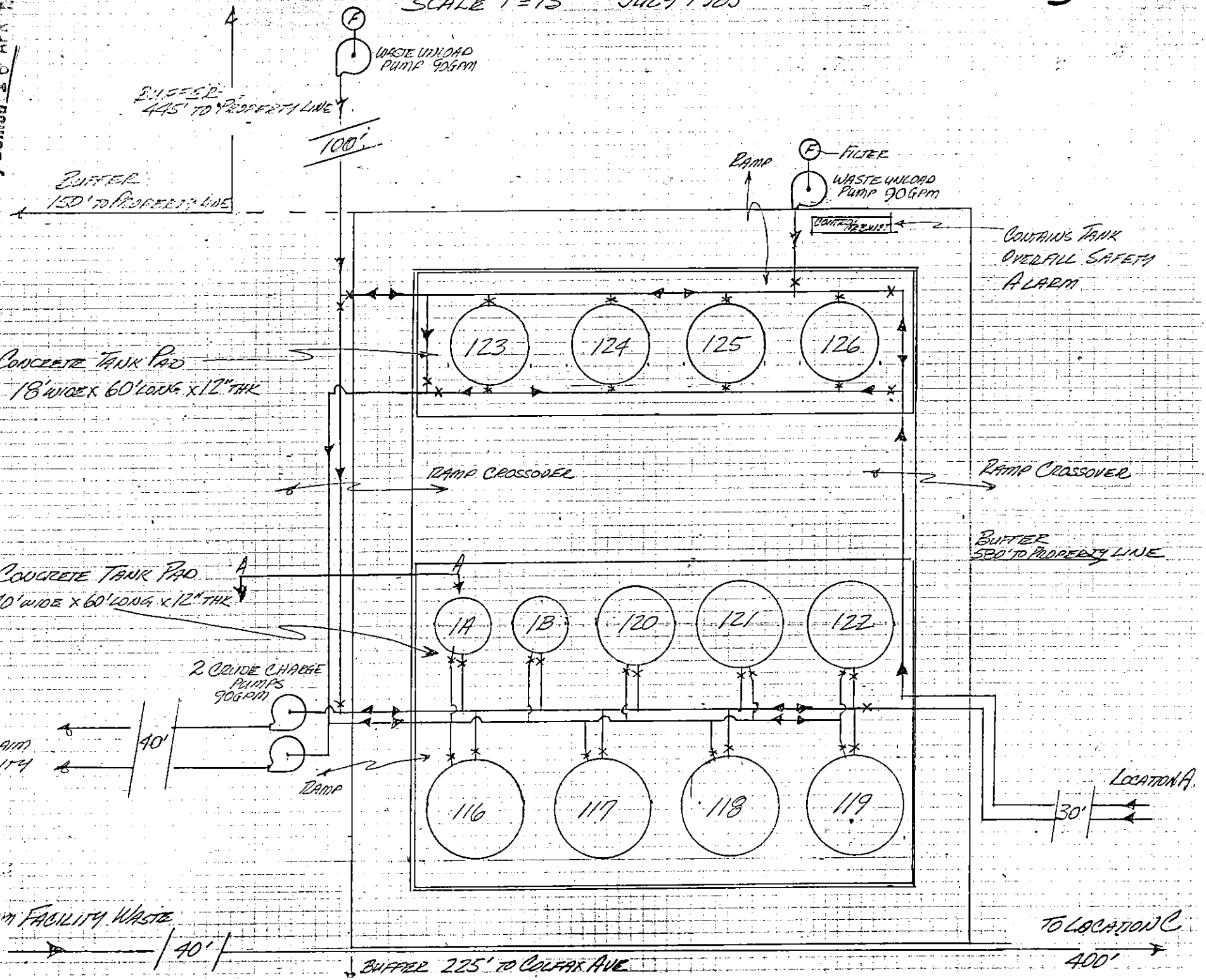
RECLAIM LOCATION B.

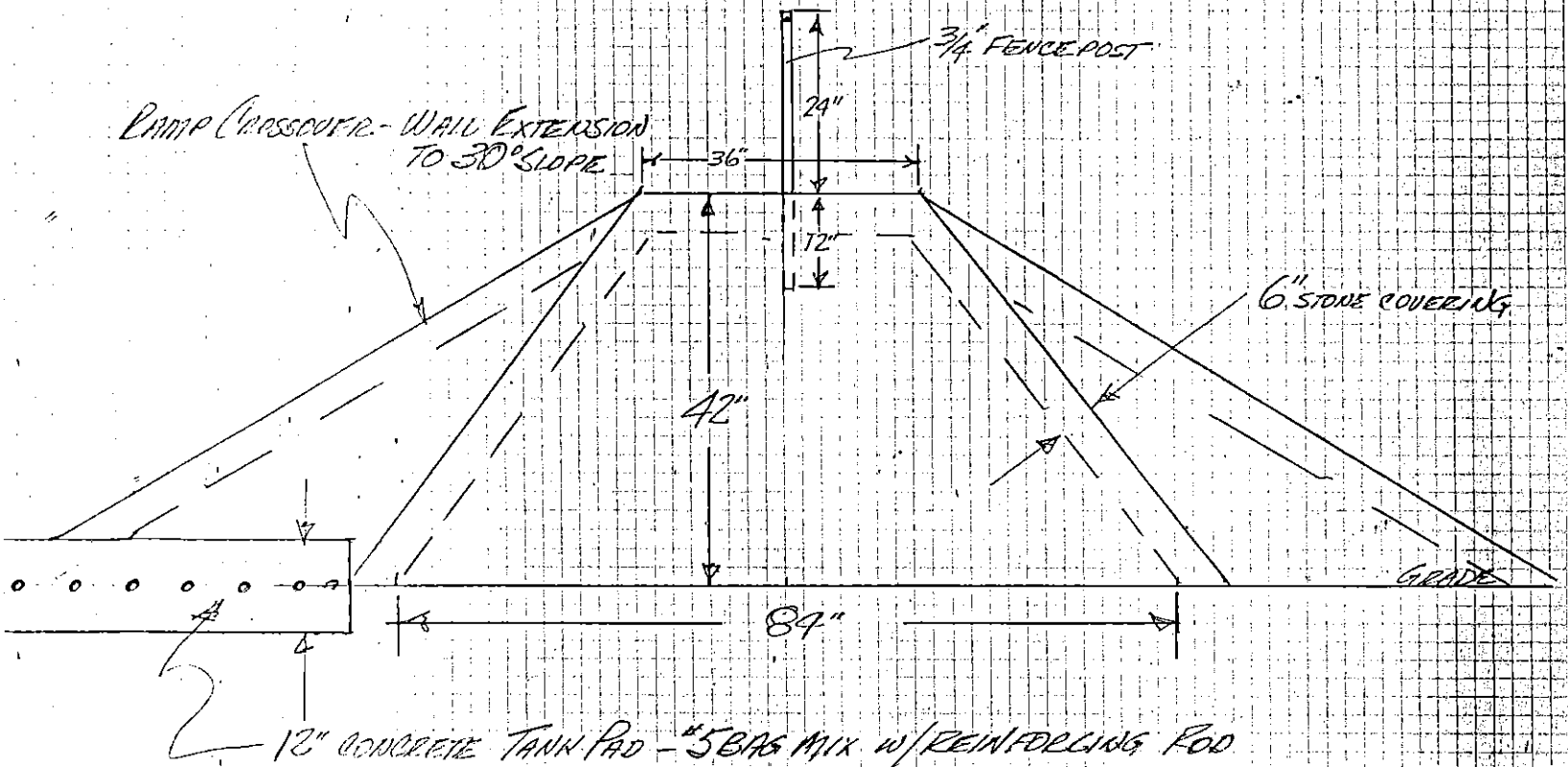
SCALE 1"=15' JULY 1985

#3



#4

SEC AA LOCATION B
SCALE 1"=2' JULY 1985



- TYPICAL EARTHEN DIKE WALL WITH A BASE CONSTRUCTION OF CLAY AND COVERED WITH 6" OF 3/4" STONE. ALL EARTHEN DIKE WALLS HAVE A ROPE FENCE LINE TO PREVENT ERRANT TRAFFIC.

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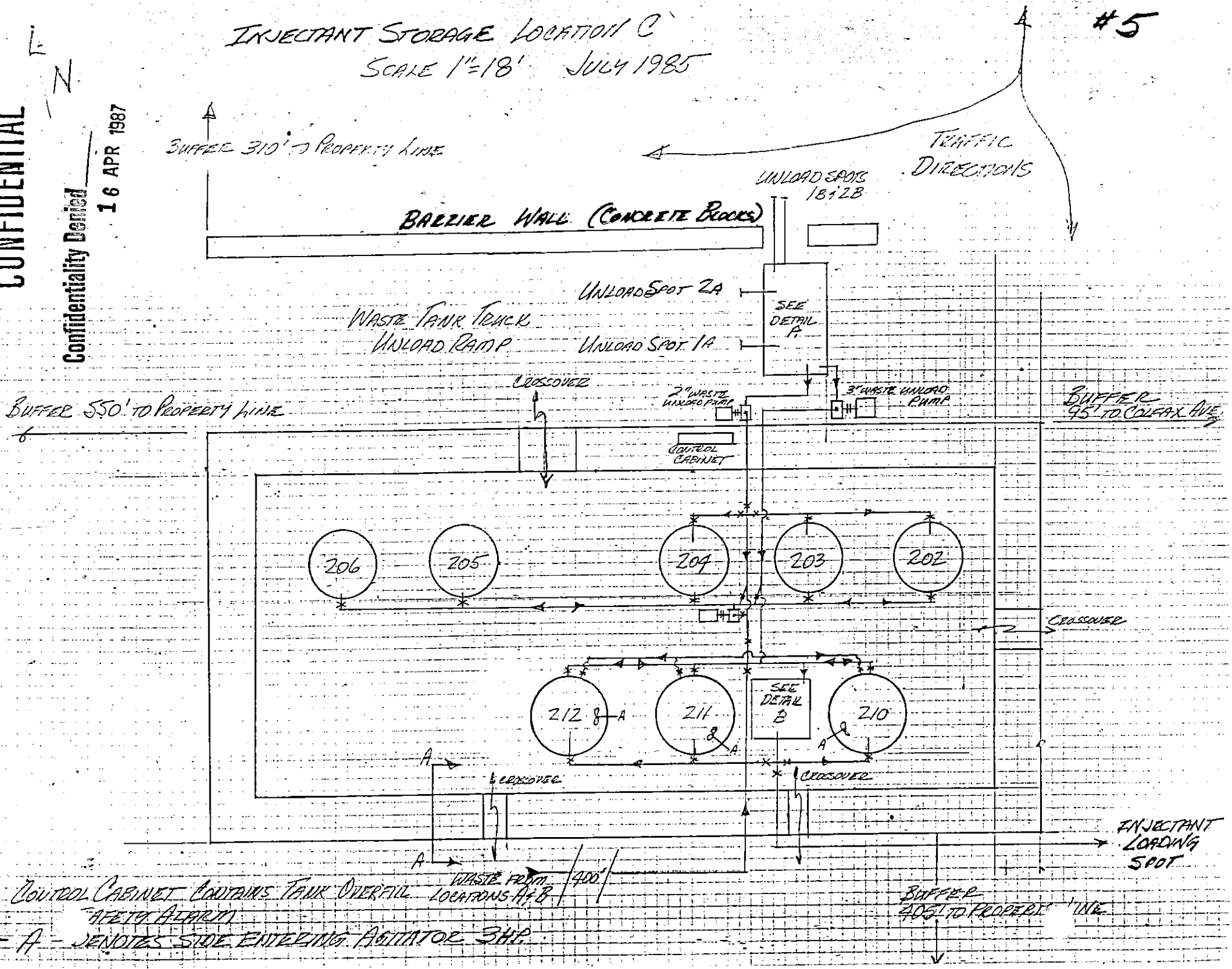
#5

INJECTANT STORAGE LOCATION C

SCALE 1"=18' JULY 1985

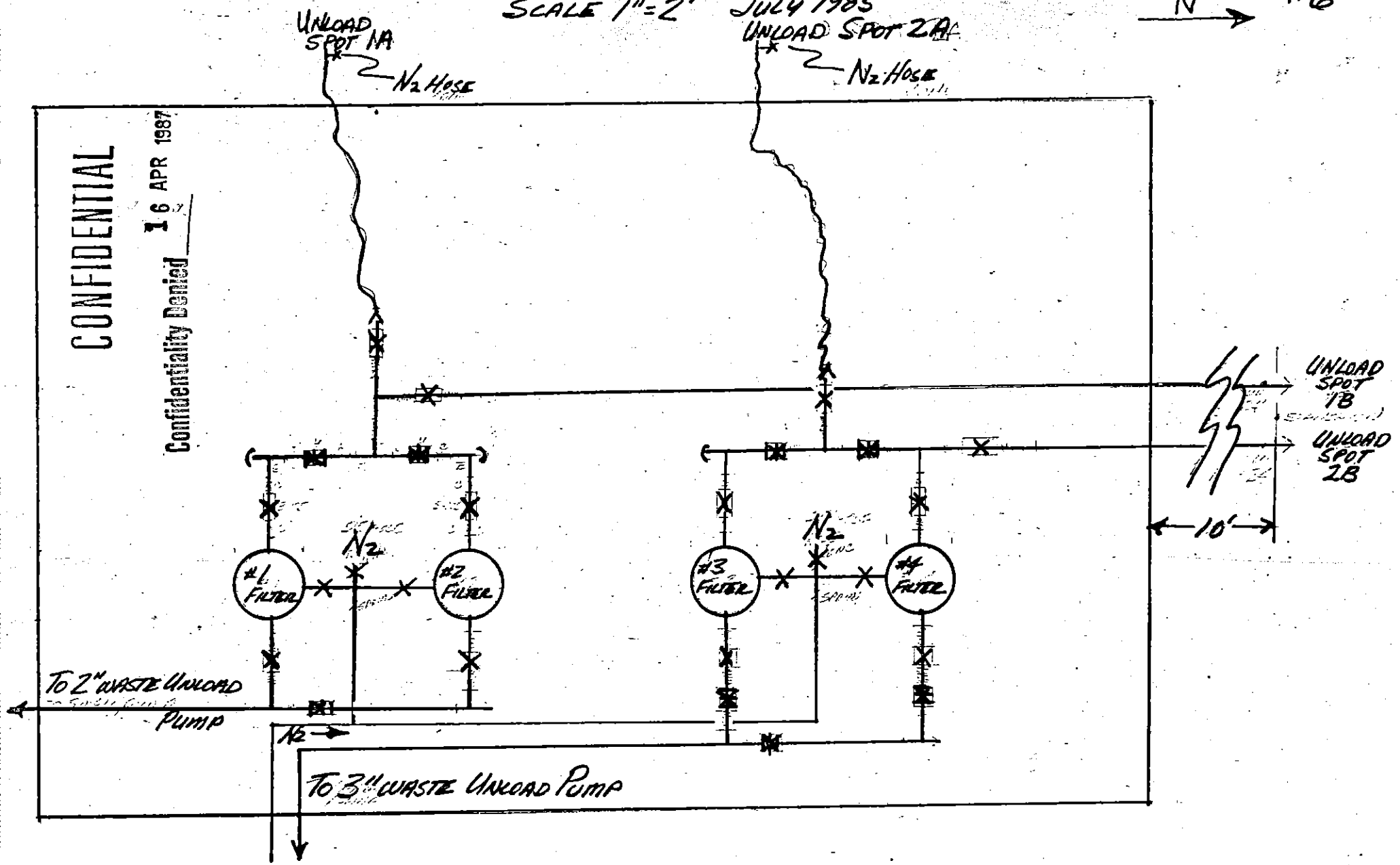


– CONTROL CABINET CONTAINS TANK OVERFILL ALERT & ALARM

– A – DENOTES SIDE ENTERING AGITATOR 3HP.

DETAIL A LOCATION C
SCALE 1"=2' JULY 1985

#6



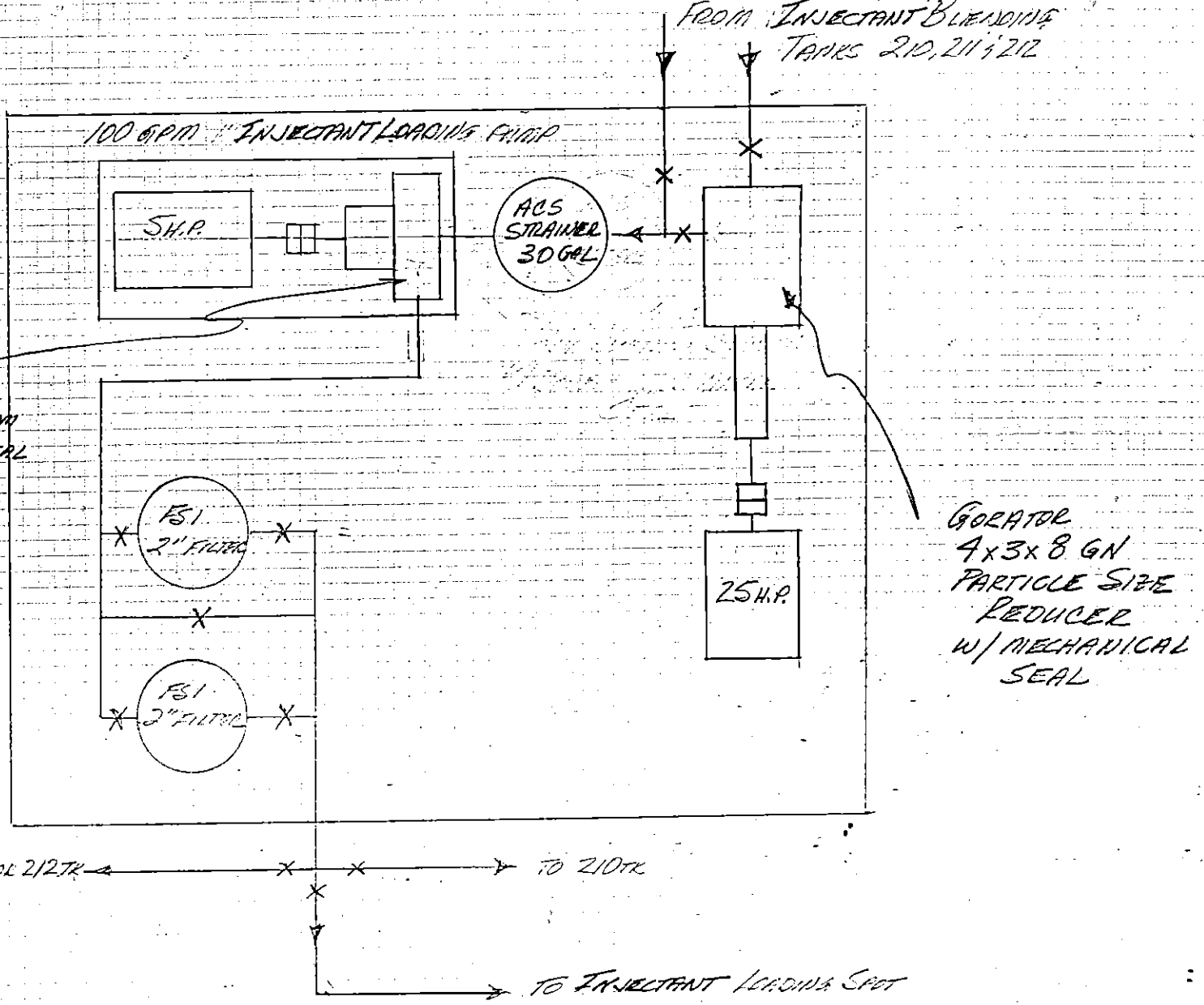
THIS WASTE UNLOAD FILTERING AREA IS UNDER ROOF (10 GAGE GALVANIZED)

DETAIL B LOCATION C
SCALE 1" = 2' JULY 1985

#1

N

THIS INJECTANT PUMPING STATION IS UNDER ROOF (10 GAGE GALVINIZED)

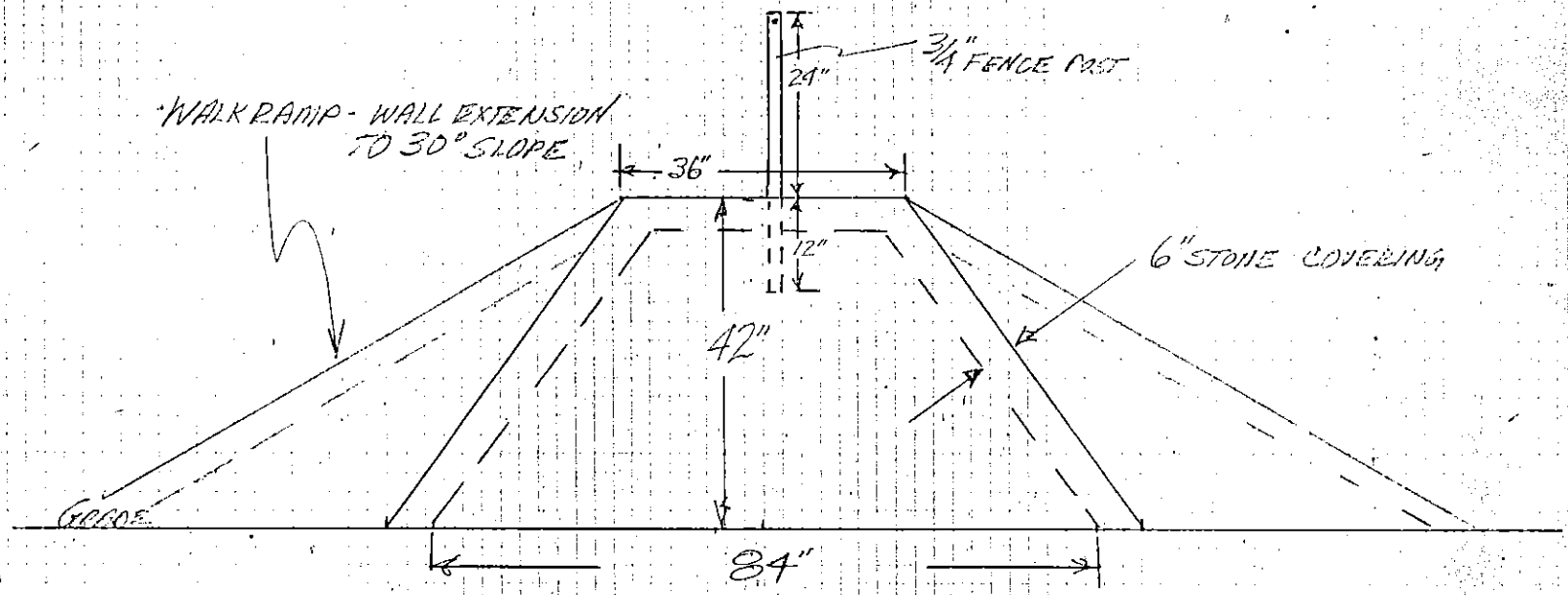


CONFIDENTIAL #8

Confidentiality Denied 16 APR 1987

SEC AA LOCATION C

SCALE 1" = 2' JULY 1985



TYPICAL EARTHEN DIKE WALL WITH A BASE CONSTRUCTION OF CLAY AND COVERED WITH 6" OF 3/4" STONE. ALL EARTHEN DIKE WALLS HAVE A ROPE FENCE LINE TO PREVENT ERRANT TRAFFIC.

#9

TANK IDENT: 1A LOCATION: RECLAIM

VOLUME: 2750 GALLONS (WORKING CAP) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:
A. 2" (GAUGE & BREATHER-ARRESTOR)
B. 1½ (LEVEL CONTROL)
C. 1½
D. 22" - SIDE MANHEAD - 32"
E. 3" - BOTTOM - VALVED
F. 2" - 8" - CAP
G.
H.
I.
J.

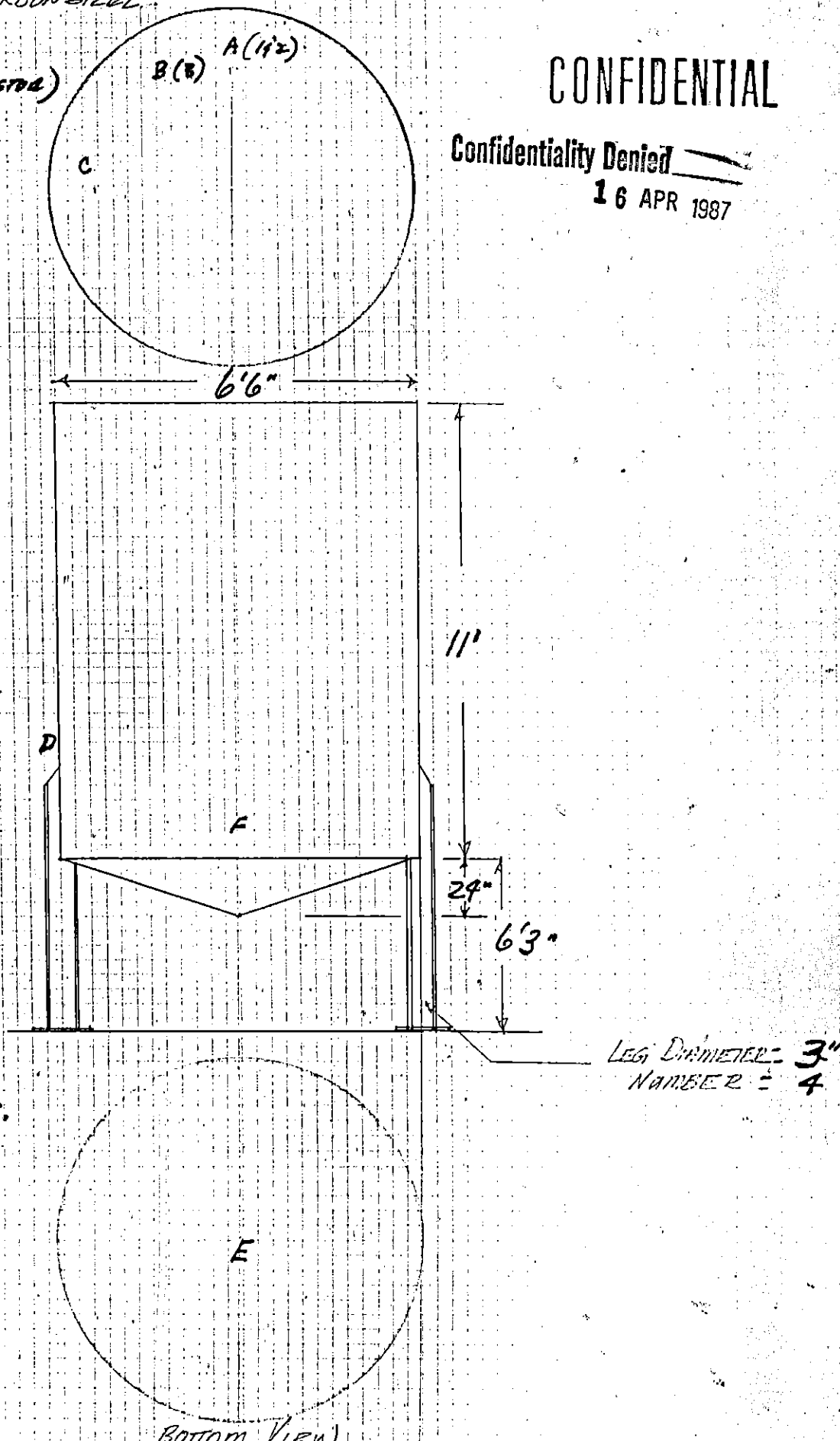
SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:
1985: 32.98
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .441 1" A.S.
1986:
1987:
1988:
1989:

TOP VIEW



BOTTOM VIEW

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16 APR 1987

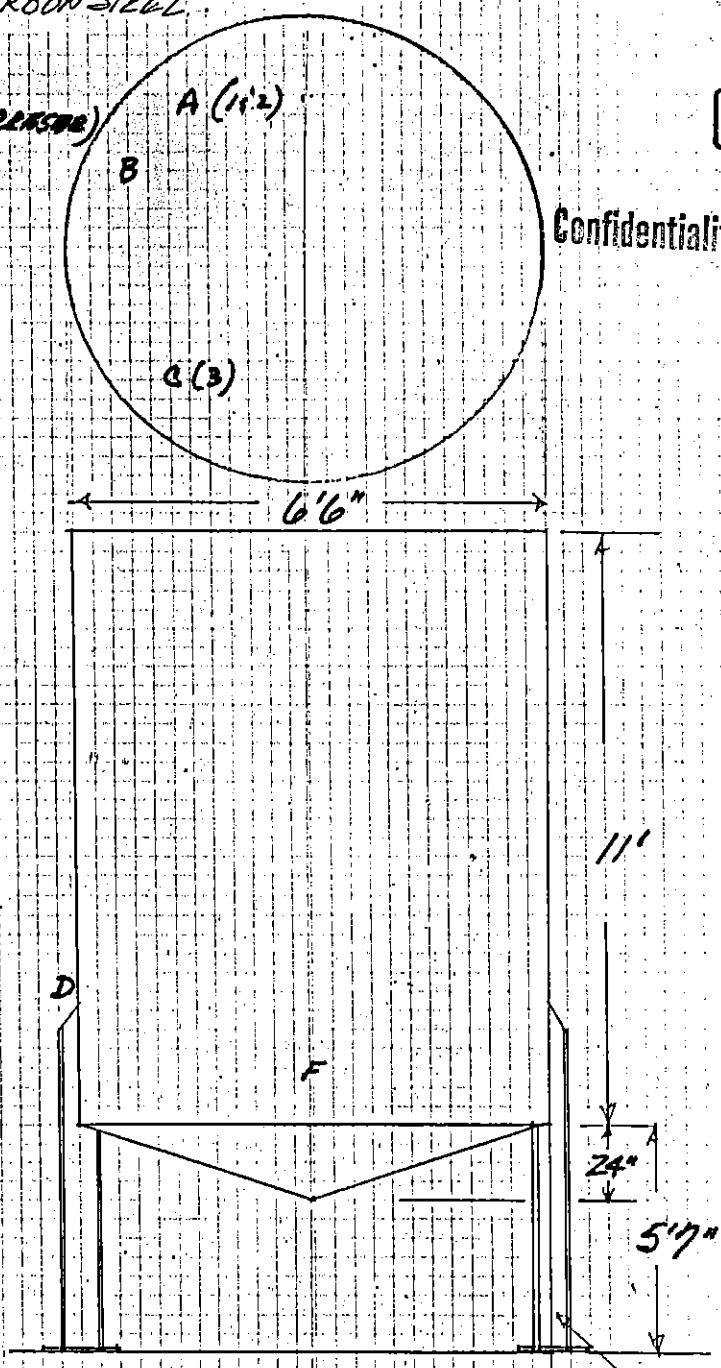
TANK IDENT: 1B LOCATION: BELLAIRE #10

VOLUME: 2750 GALLONS (WORKING CAP) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

TOP VIEW

NOZZLES:
A. 2" (GAUGE; BREATHER - ARRESTOR)
B. 1½"
C. 3" (LEVEL CONTROL)
D. 22" SIDE MANHEAD - 32"
E. 3" - BOTTOM - VALVED
F. 3" - 8" — CAP
G.
H.
I.
J.



LEG DIAMETER = 8"
NUMBER = 4

SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 35.09
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .425 1" A.S.
1986:
1987:
1988:
1989:

BOTTOM VIEW

TANK IDENT: 116 LOCATION: RECLAIM #11

VOLUME: 10,800 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

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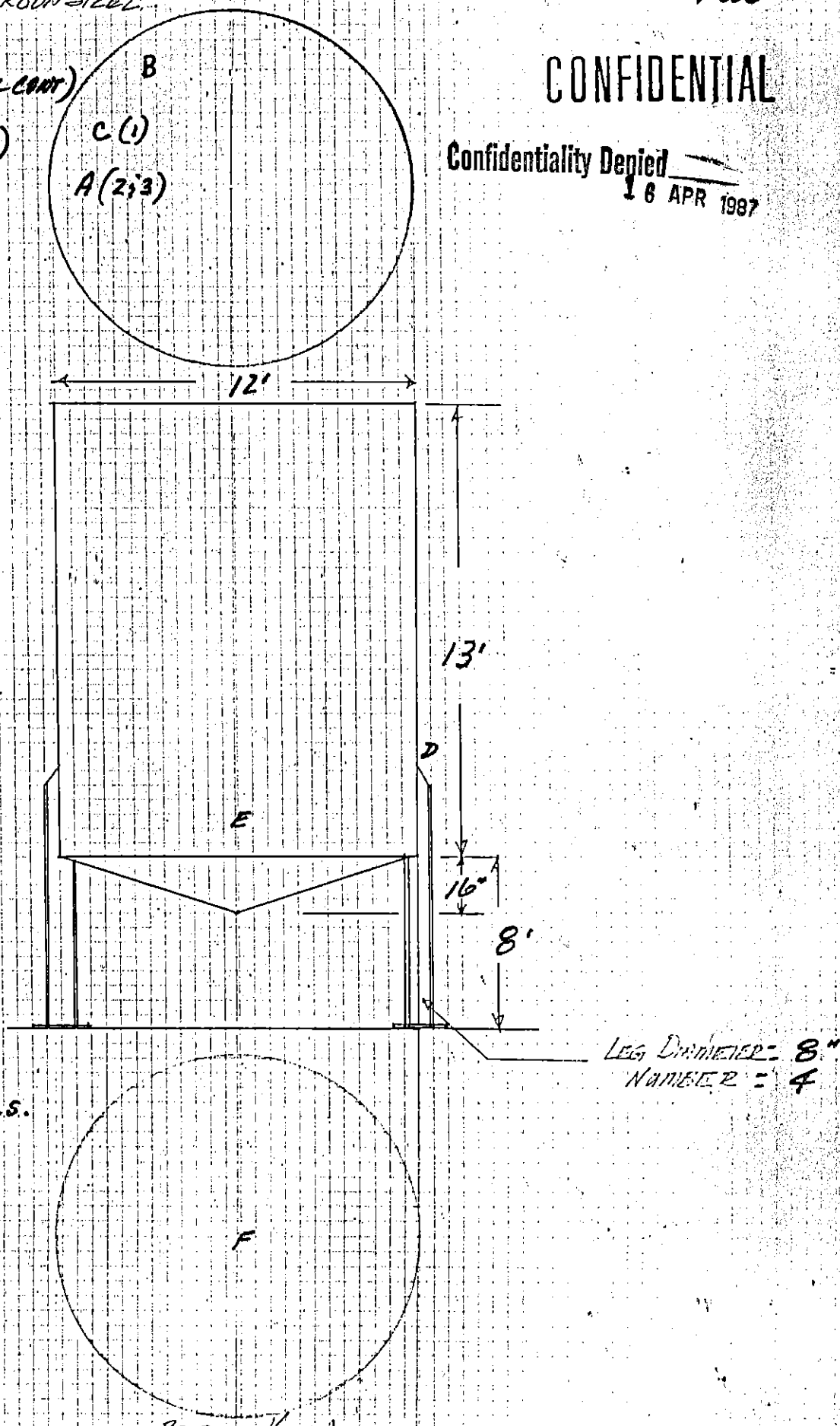
NOZZLES:
A. 20" MANHEAD (GAUGE; LEVEL CONT)
B. 3"
C. 2" (BREATHER; ARRESTOR)
D. 24" - SIDE MANHEAD - 24"
E. 2" - 9" - VALVED
F. 4" - BOTTOM - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:
1985: 6.28
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .250 I.A.S.
1986:
1987:
1988:
1989:



TANK IDENT: 117 LOCATION: RECLAIM #12

VOLUME: 10800 GALLONS (WORKING CAP.) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

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16 APR 1987

NOZZLES:
A. TOP MANHEAD (GAUGE; LEVEL CALC)
B. 3"
C. 2" (BREATHER & ARRESTOR)
D. 24" SIDE MANHEAD - 24"
E. 2" - 9" - VALVED
F. 4" - BOTTOM - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

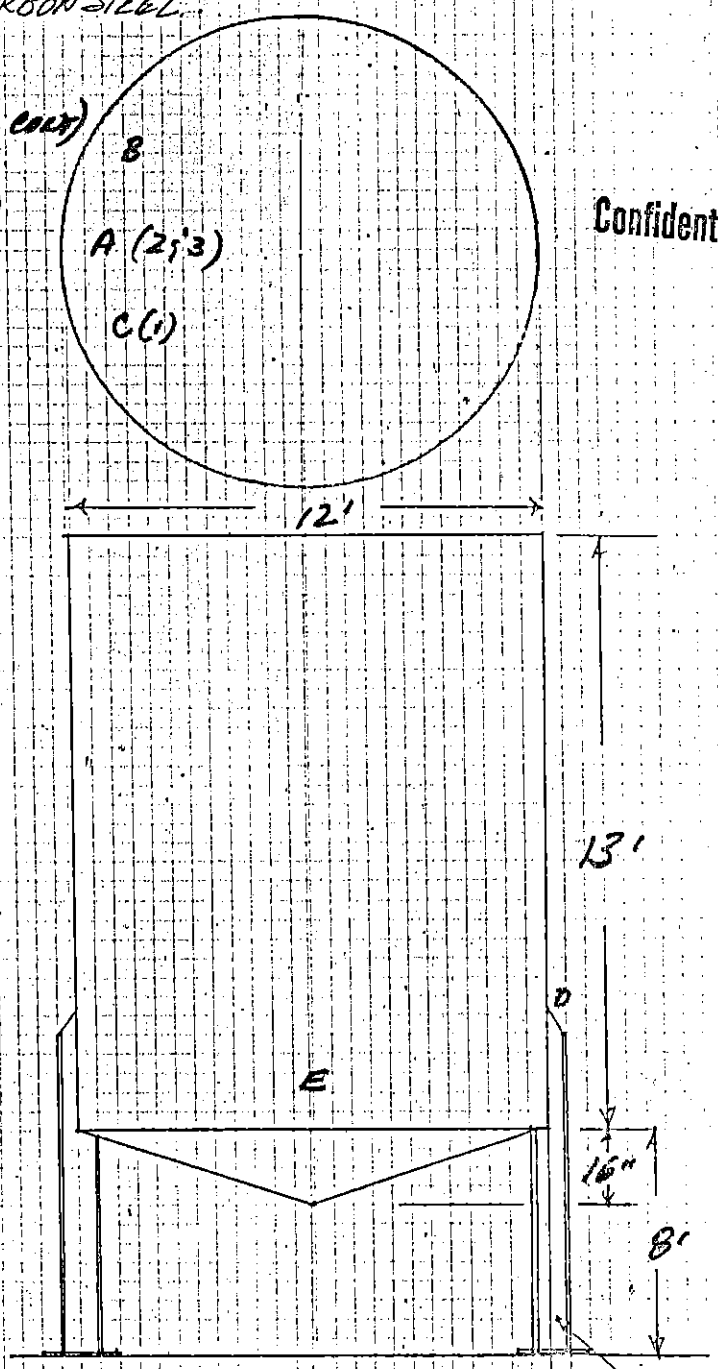
DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 5.89
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .233 1" A.S.
1986:
1987:
1988:
1989:

TOP VIEW



LEG DIAMETER: 8"
NUMBER: 12

BOTTOM VIEW

TANK IDENT: 118 LOCATION: RECLAIM #13

VOLUME: 12800 GALLONS (NOMINAL CAP.) WASTE STORED: D001, F001, F002, F003 or F005

MATERIAL OF CONST: CARBON STEEL

CONFIDENTIAL

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16 APR 1987

NOZZLES:

A. TOP MANWAY (GAUGE & LEVEL CONT)
B. 3"
C. 2" (BREATHER & ARRESTOR)
D. 24" - SIDE MANWAY - 24"
E. 2" - 9" - VALVED
F. 4" - BOTTOM - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:

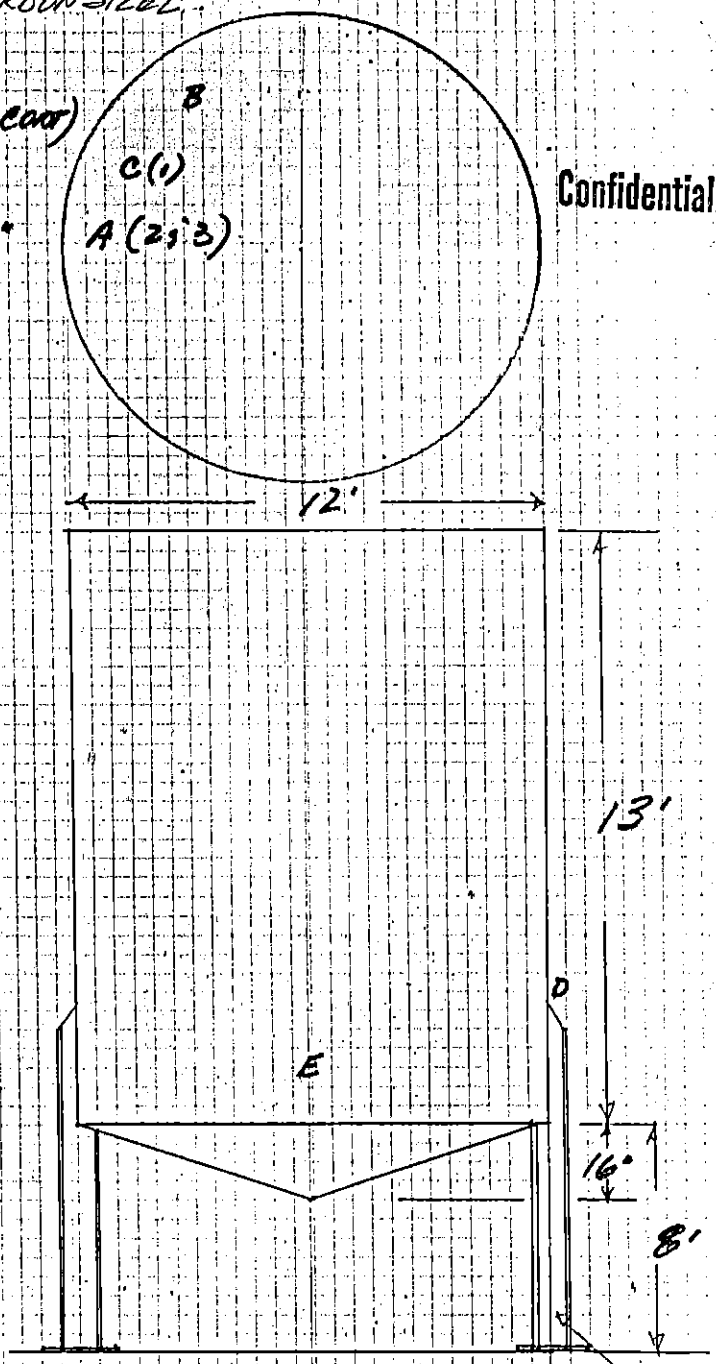
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:

1985: 5.49
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .231 1" A.S.
1986:
1987:
1988:
1989:



LEG DIAMETER = 8"
NUMBER = 4

BOTTOM VIEW

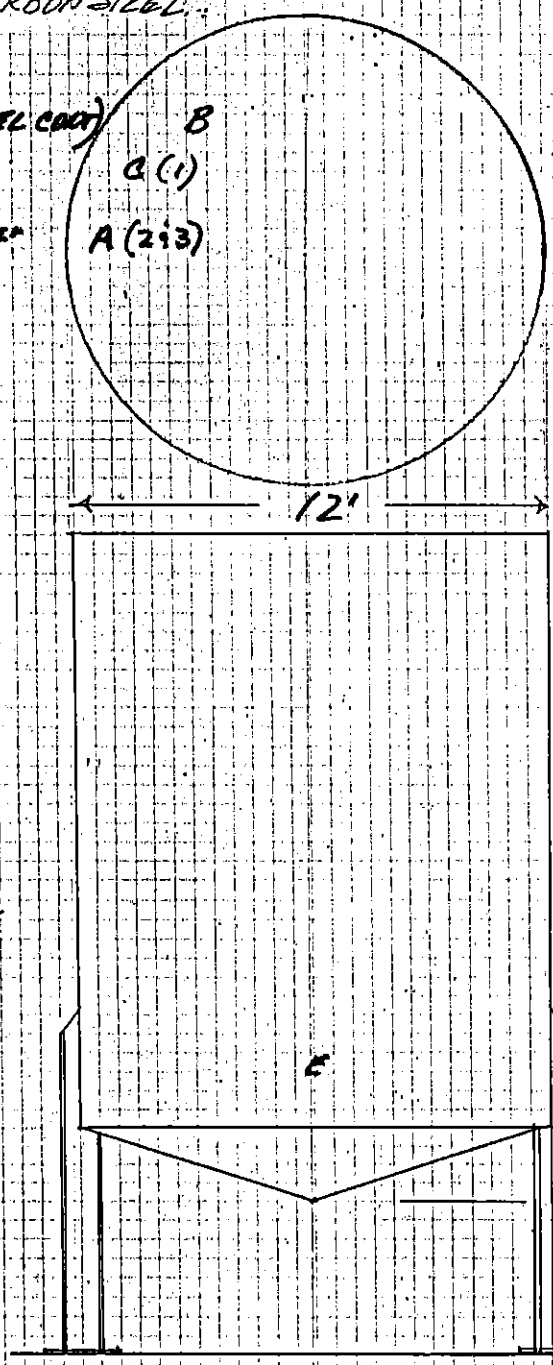
TANK IDENT: 119 LOCATION: RECLAIM #14

VOLUME: 10800 GALLONS (WORKING CAP.) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL COCK)
B. 3"
C. 2" (BREATHER & ARRESTOR)
D. 24" - SIDE MANHEAD - 24"
E. 2" - 7" - VALVED
F. 4" - BOTTOM - VALVED
G.
H.
I.
J.



SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:

1985: 5.89
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .244 1"AS.
1986:
1987:
1988:
1,169:

TANK IDENT: 120 LOCATION: RECLAIM E15

VOLUME: 6000 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

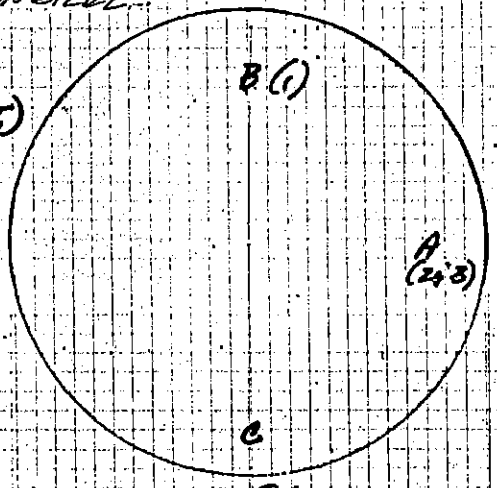
NOZZLES:
A. TOP MANHEAD (GAUGE & LEVEL CONT.)
B. 2" (BREATHER & ARRESTOR)
C. 2"
D. 24" - SIDE MANHEAD - 16"
E. 2" - 3" - VALVED
F. 3" - BOTTOM - VALVED
G.
H.
I.
J.

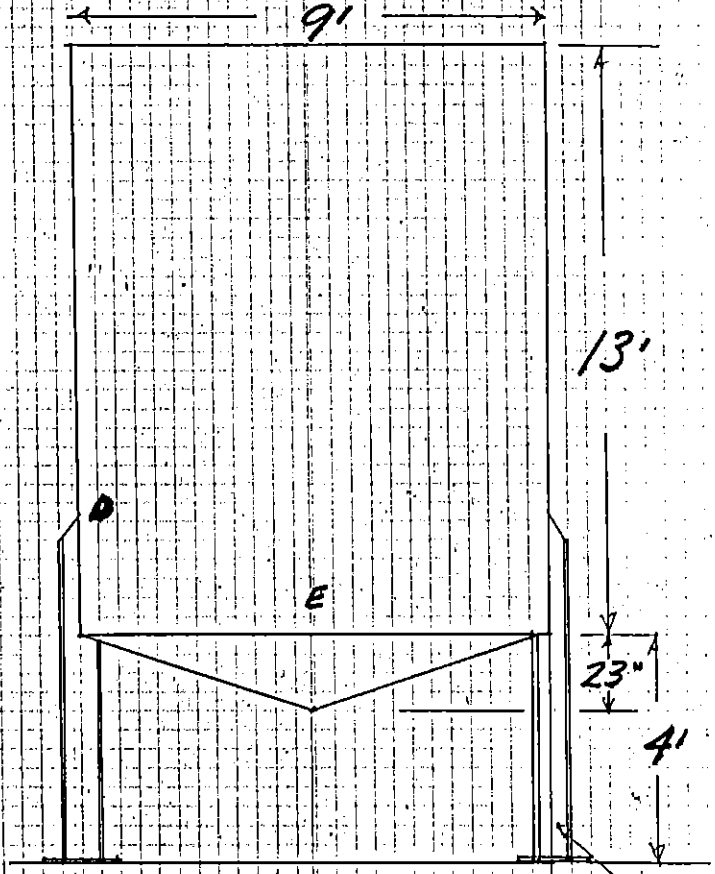
SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:
1985: 0.38
1986:
1987:
1988:
1989:

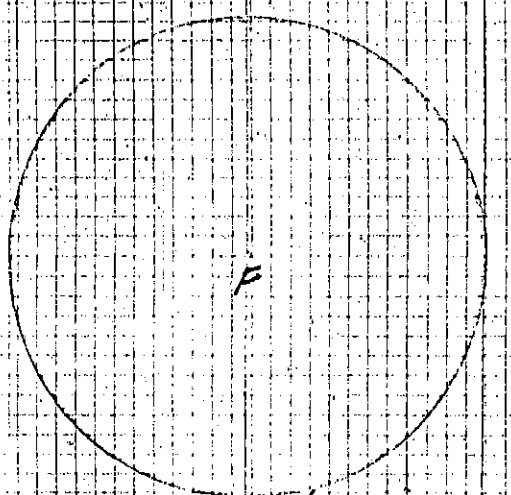
THICKNESS READINGS:
1985: .250 I.A.S.
1986:
1987:
1988:
1989:

TOP VIEW





LEG DIAMETER: 8"
NUMBER: 4



BOTTOM VIEW

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TANK IDENT: 121 LOCATION: RECLAIM #16

VOLUME: 10,500 GALLONS (WORKING CAP.) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

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NOZZLES:

A. TOP MANHEAD (GAUGE; LEVEL CONT)
B. 2" (BREATHER; ARRESTOR)
C. 2"
D. 24" SIDE MANHEAD — 16"
E. 2" - 3" — VALVED
F. 3" - BOTTOM - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:

API 650 A4-1

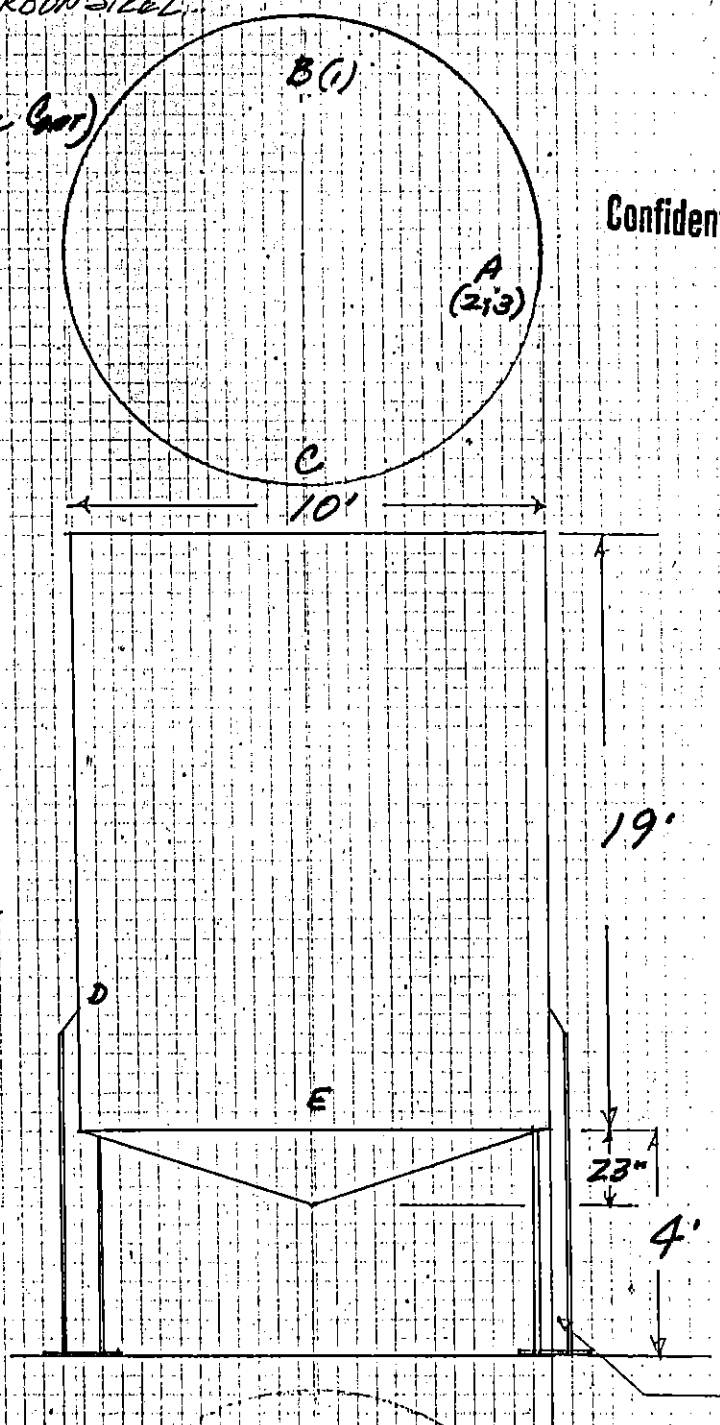
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:

1985: 4.39
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .230 1'A.S.
1986:
1987:
1988:
1989:



#17

TANK IDENT: 122 LOCATION: RECLAIM

VOLUME: 10,500 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

CONFIDENTIAL

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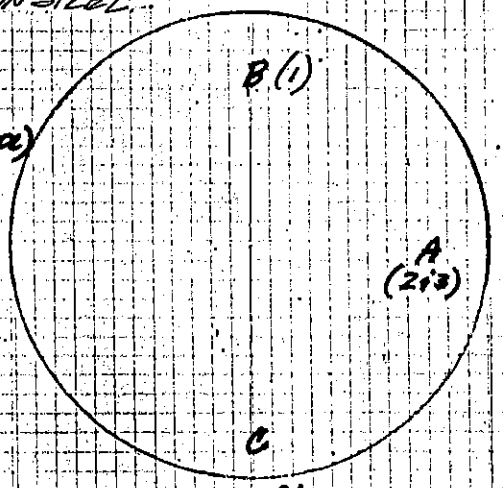
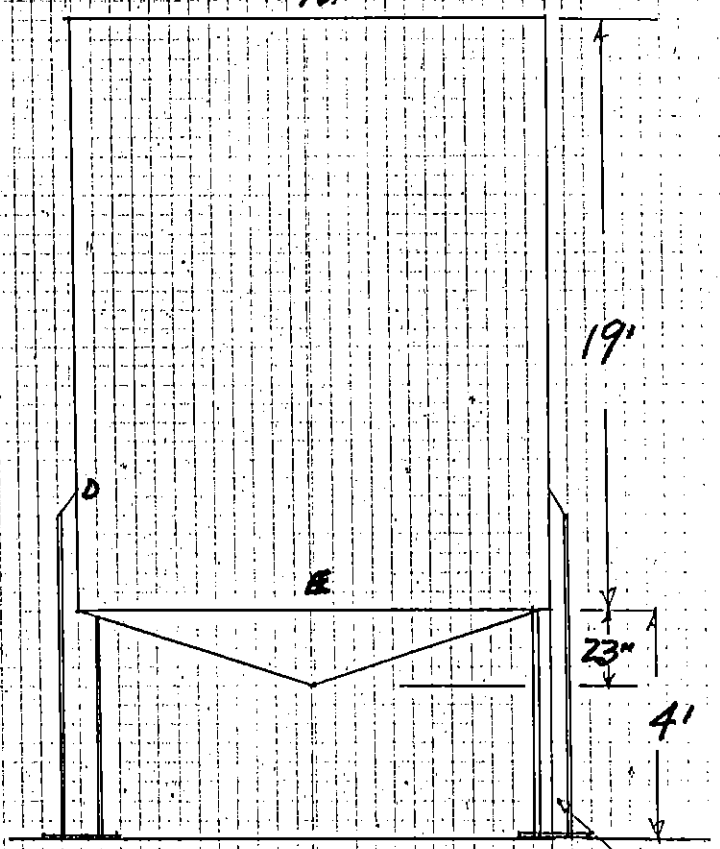
NOZZLES:
A. TOP MANHEAD (GAUGE; LEVEL CONTROL)
B. 2" (BREATHER; ARRESTOR)
C. 2"
D. 24" SIDE MANHEAD - 16"
E. 2" - 3" - VALVED
F. 3" - BOTTOM - VALVED
G.
H.
I.
J.

TOP VIEW





LEG DIAMETER = 8"
NUMBER = 4

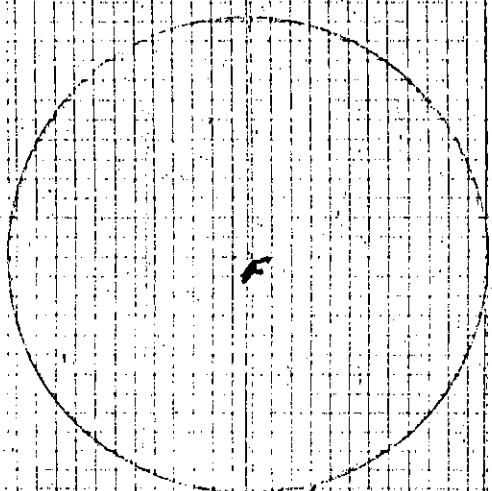
SAFETY CONTROLS:
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 5.03
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .250 1' A.S.
1986:
1987:
1988:
1989:



BOTTOM VIEW

#18

TANK IDENT: 123 LOCATION: RECLAIM

VOLUME: 19,500 GALLONS (COOLING CAPAC) WASTE STORED: D001

MATERIAL OF CONST: CARBON STEEL

CONFIDENTIAL

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NOZZLES:

A: TOP MANHEAD (GAUGE; LEVEL CONTROL)
B: 3" (BREATHER; ARRESTOR)
C: 2"
D: 2" – 7" – VALVED
E: 3" – 12" – VALVED
F: 2" – 19" – VALVED
G:
H:
I:
J:

SAFETY CONTROLS:

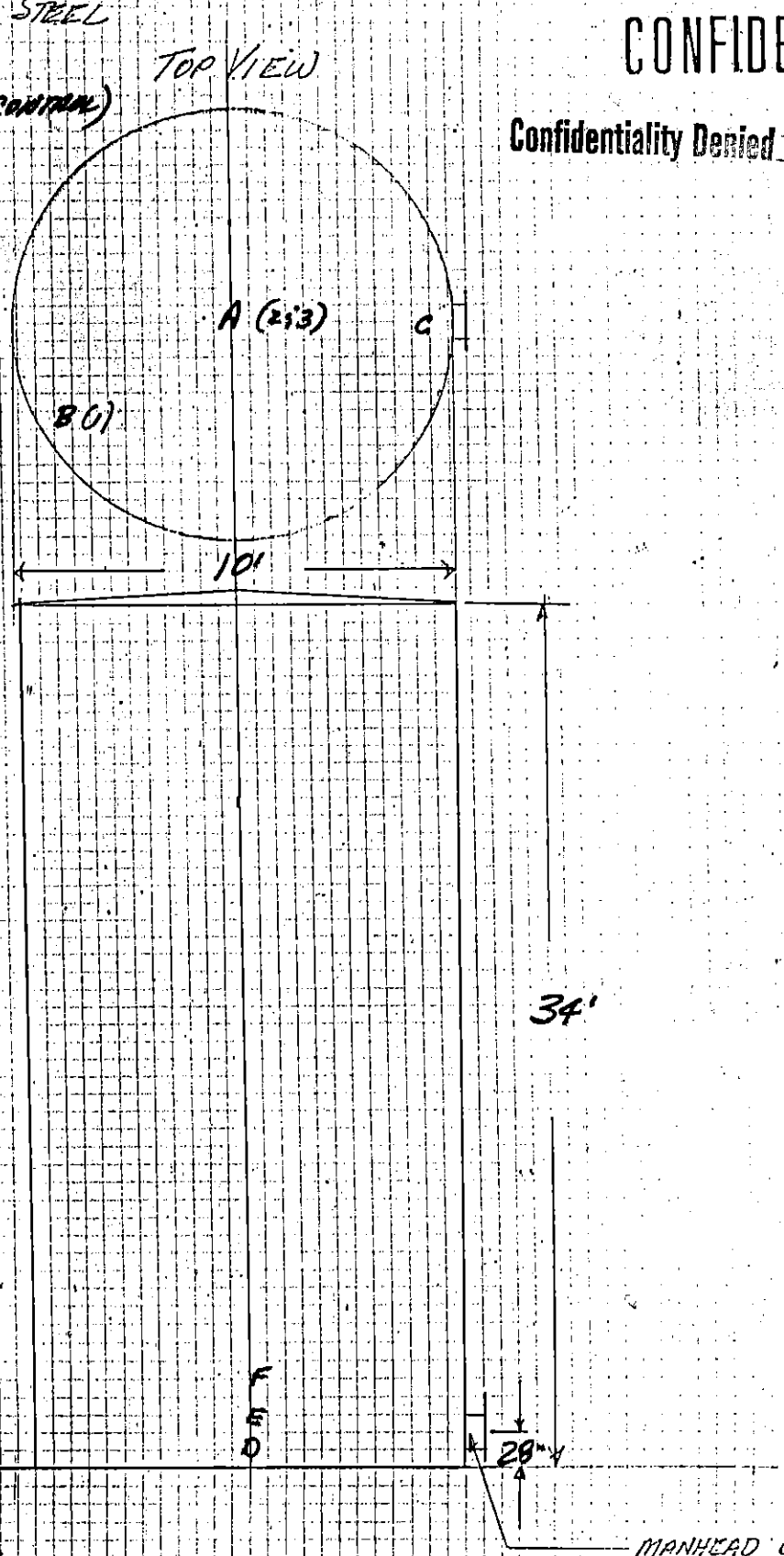
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 2.12
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .214 2'A4
1986:
1987:
1988:
1989:



TANK IDENT: 124 LOCATION: RECLAIM #19

VOLUME: 19500 GALLONS (WORKING CAP.) WASTE STORED: D001

1. MATERIAL OF CONST: CARBON STEEL

CONFIDENTIAL

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NOZZLES:

A. TOP MANWAY (GAUGE & LEVEL CONTROL)
B. 3" (BREATHER & ARRESTOR)
C. 2"
D. 2" - 7" - VALVED
E. 3" - 12" - VALVED
F. 2" - 18" - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

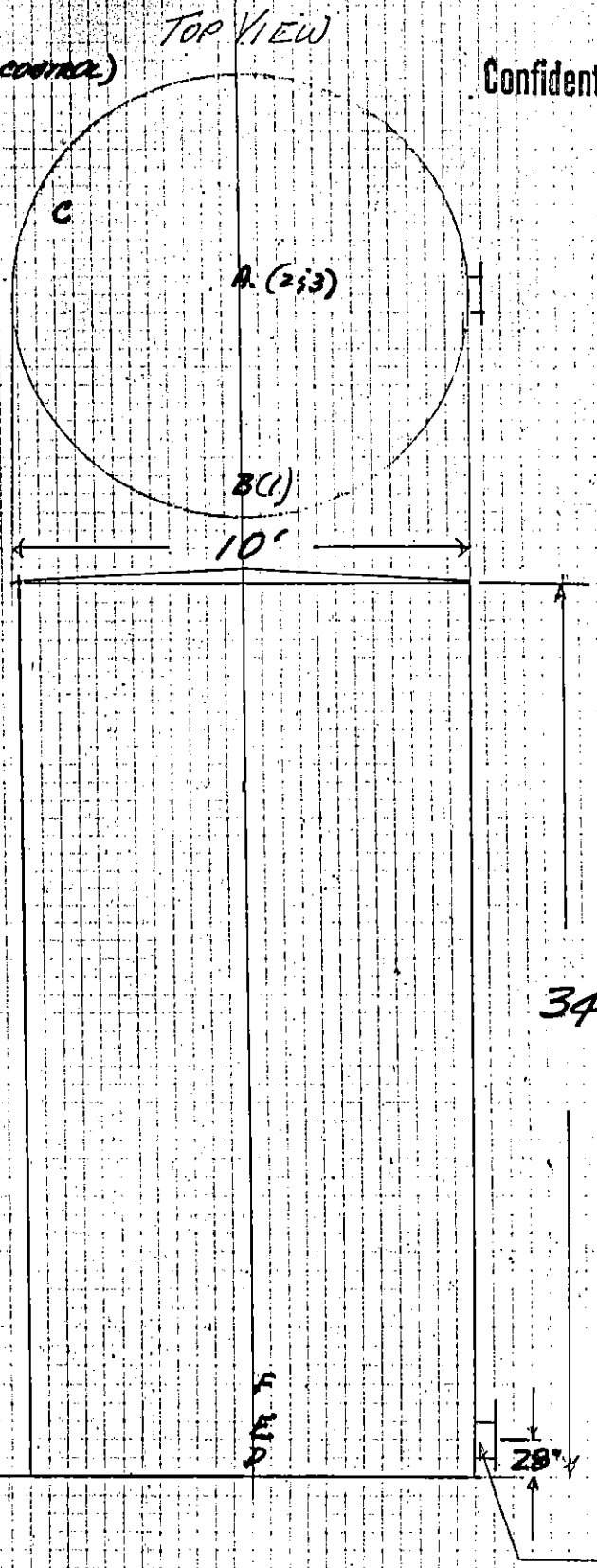
DESIGN STANDARDS:
API 650 A4.1

MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 2.39
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .230 2'AG
1986:
1987:
1988:
1989:



#20

TANK IDENT: 125 LOCATION: RECLAIM

VOLUME: 19500 GALLONS (WORKING CAP.) WASTE STORED: D001

MATERIAL OF CONST: CARBON STEEL

CONFIDENTIAL

Confidentiality Denied 16 APR 1987

NOZZLES:

A. TOP MANHEAD (GAUGE; LEVEL CONTROL)
B. 3" (BREATHER & ARRESTOR)
C. 3"
D. 2" - 8" - VALVED
E. 3" - 12" - VALVED
F. 2" - 20" - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1

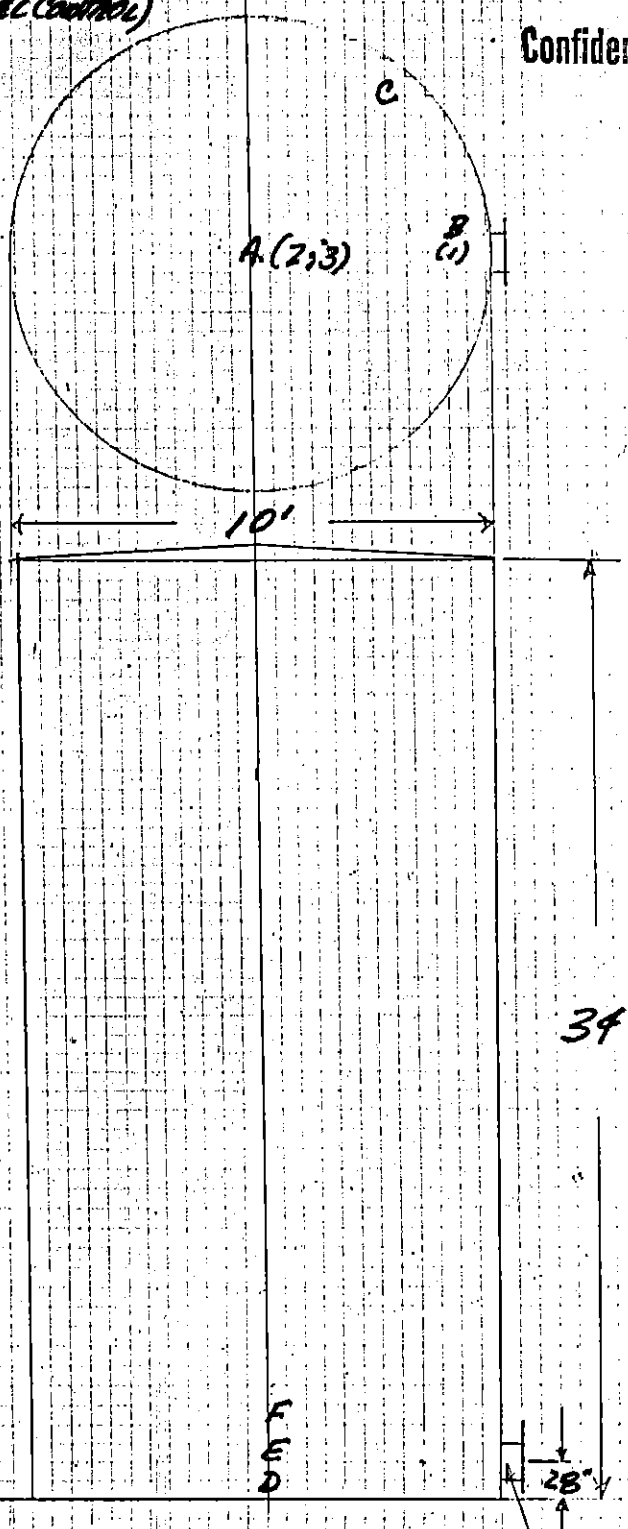
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 2.57
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .240 8'AG
1986:
1987:
1988:
1989:

TOP VIEW



#21

TANK IDENT: 126 LOCATION: RECLAIM

VOLUME: 19500 GALLONS (WORKING CAP.) WASTE STORED: D001

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE; LEVEL CONTROL)
B. 3" (BREATHER; ARRESTOR)
C. 3"
D. 2" - 8" - VALVED
E. 3" - 12" - VALVED
F. 2" - 20" - VALVED
G.
H.
I.
J.

SAFETY CONTROLS:

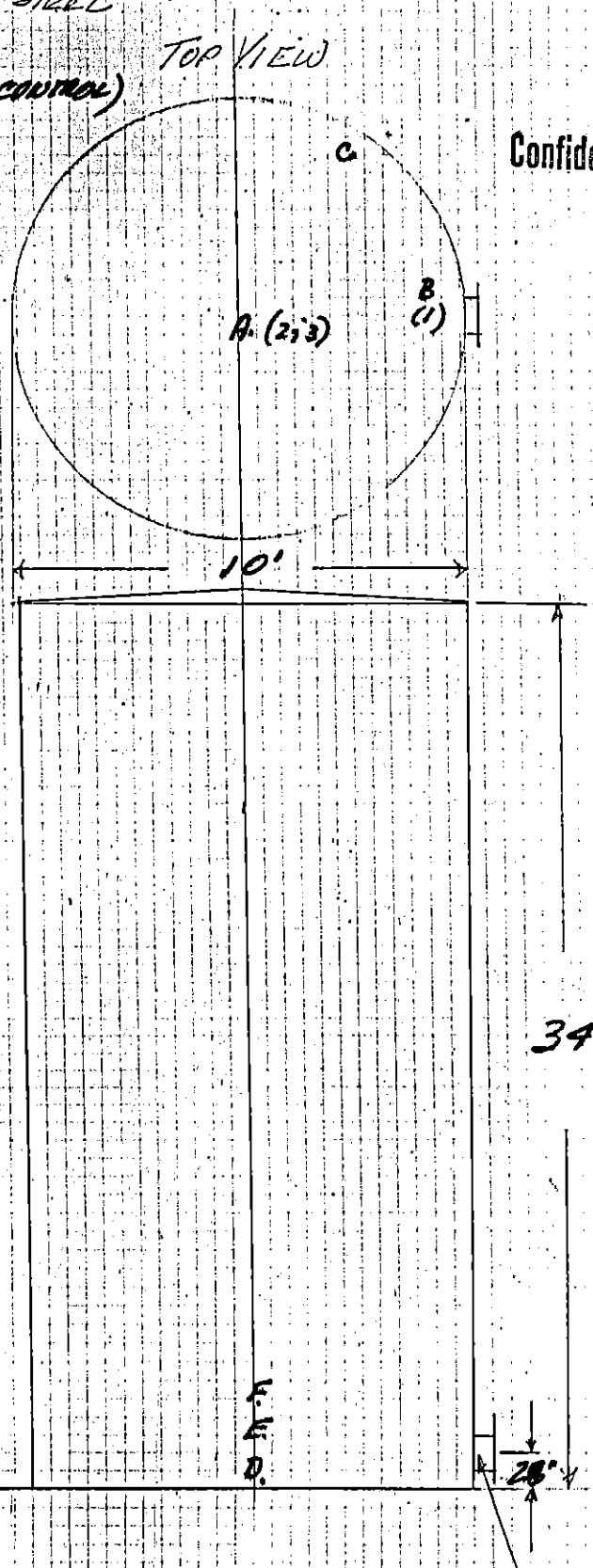
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:
1985: 2.57
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .290 - 8'AG
1986:
1987:
1988:
1989:

TOP VIEW



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TANK IDENT: 202 LOCATION: INJECTANT STORAGE #22

VOLUME: 18000 GALLONS (WORKING CAP.) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL CONTROL)
B. 4" (BREATHER AND ARRESTOR)
C. 2"
D. 2" - 4½" - VALVED
E. 2" - 7" - CAP
F. 4" - 7" - CAP
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1

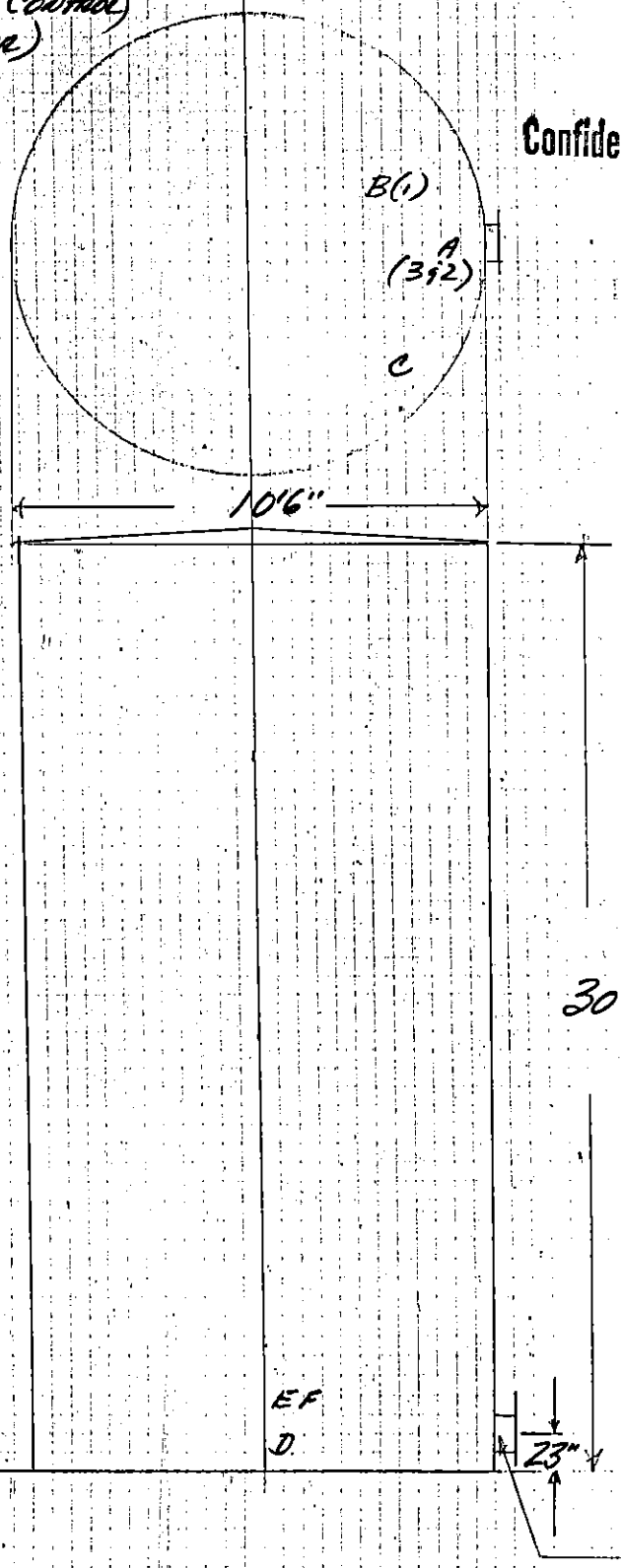
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 1.87
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .120 8'A4
1986:
1987:
1988:
1989:

TOP VIEW



TANK IDENT: 203 LOCATION: INJECTANT STORAGE #23

VOLUME: 16000 GALLONS (WORKING CAP.) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL CONTROL)
B. 3" (BREATHER AND ARRESTOR)
C. 2" CAP
D. 2" - 3" - VALVED
E. 3" - 5" - CAP
F.
G.
H.
I.
J.

SAFETY CONTROLS:

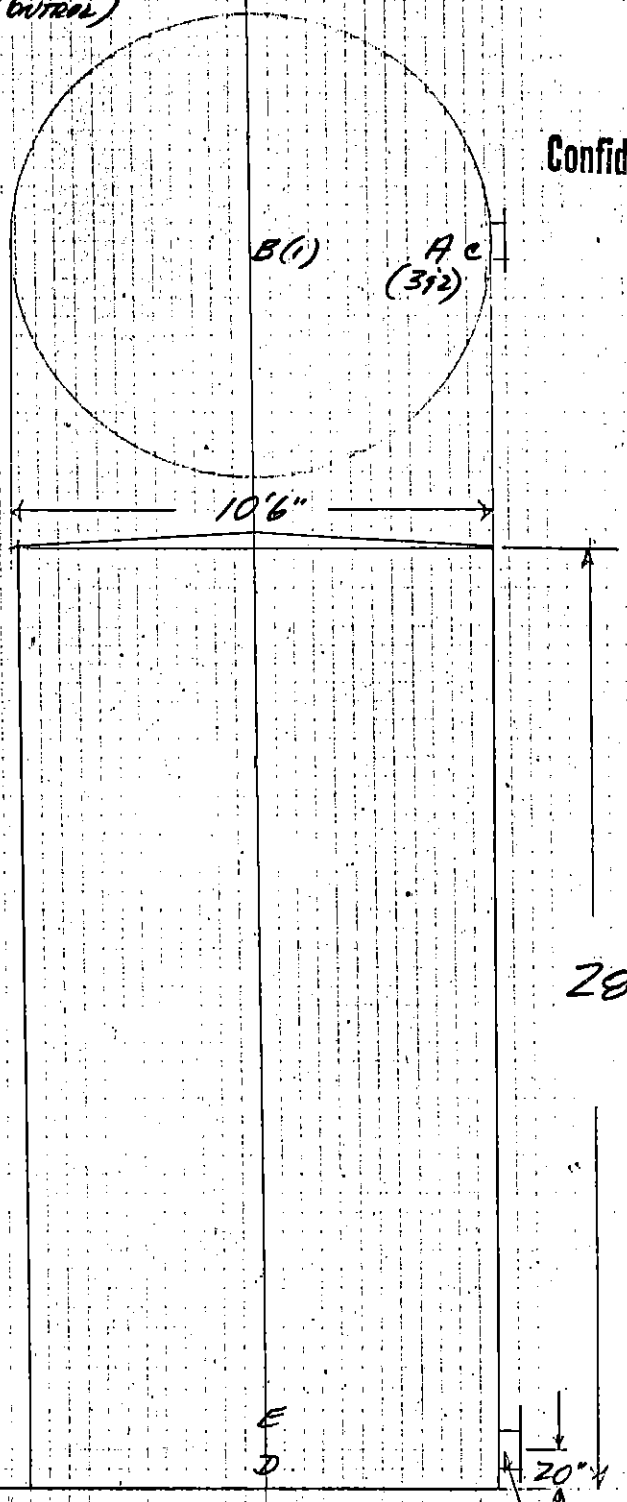
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:
1985: 1.48
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .142 8'AG
1986:
1987:
1988:
1989:

TOP VIEW



TANK IDENT: 204 LOCATION: INJECTANT STORAGE #24

VOLUME: 17000 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL CONTROL)
B. 2" (BREATHER AND ARRESTOR)
C. 2"
D. 2" — 3" — VALVED
E. 3" — 5" — CAP
F. 3" — 5" — CAP
G.
H.
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1

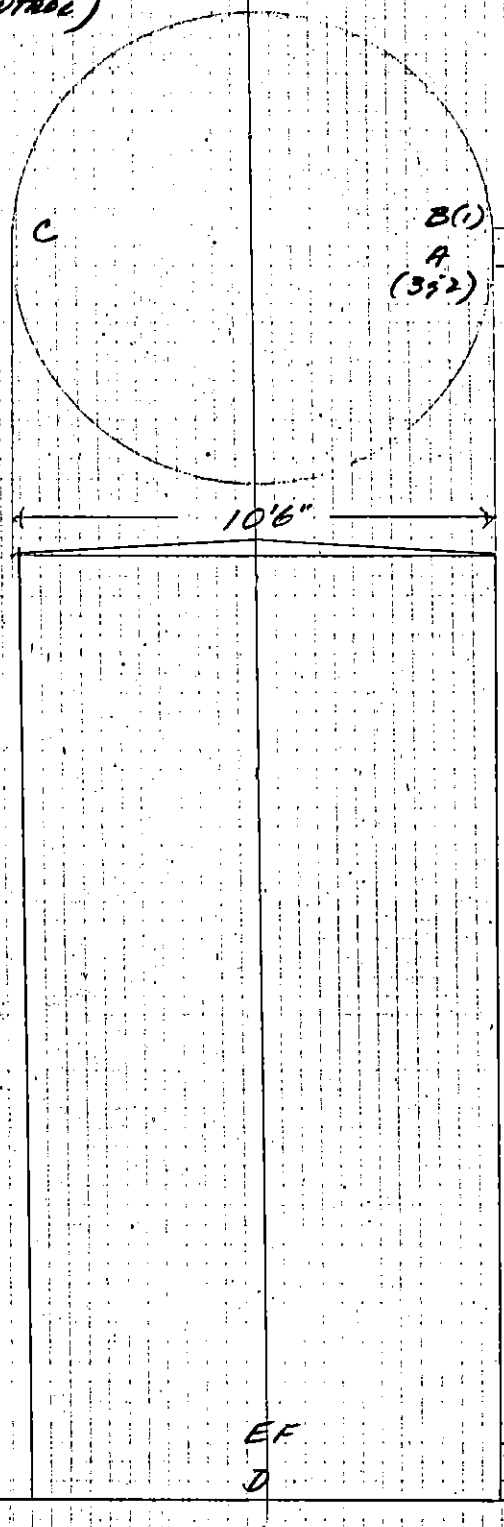
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 1.49
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .145 8'AG
1986:
1987:
1988:
1989:

TOP VIEW



#25

TANK IDENT: 205 LOCATION: INJECTANT STORAGE

VOLUME: 18000 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL CONTROL)
B. 4" (BREATHER AND ARRESTOR)
C. 2"
D. 2" - 4½" - VALVED
E. 2" - 7" - CAP
F. 4" - 7" - CAP
G.
H.
I.
J.

SAFETY CONTROLS:

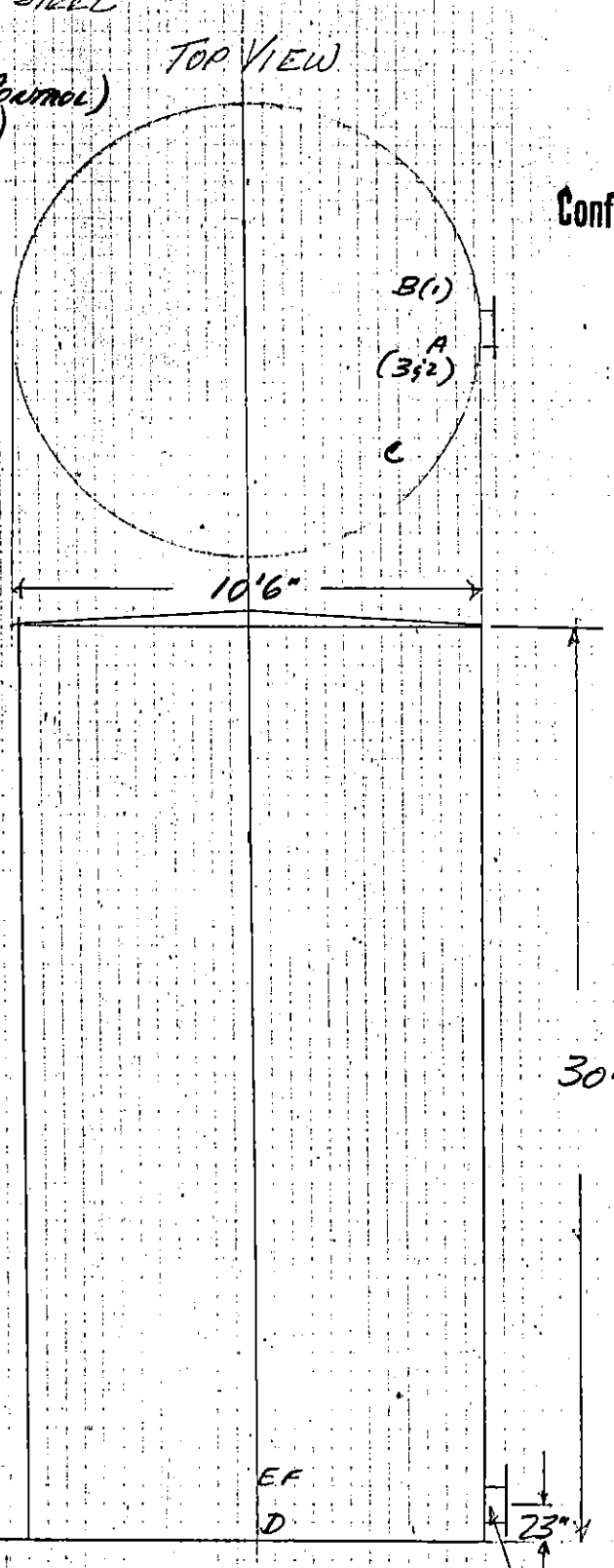
1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS

READINGS:
1985: 1.87
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .170 8'AG
1986:
1987:
1988:
1989:

TOP VIEW



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#26

TANK IDENT: 206 LOCATION: INJECTANT STORAGE

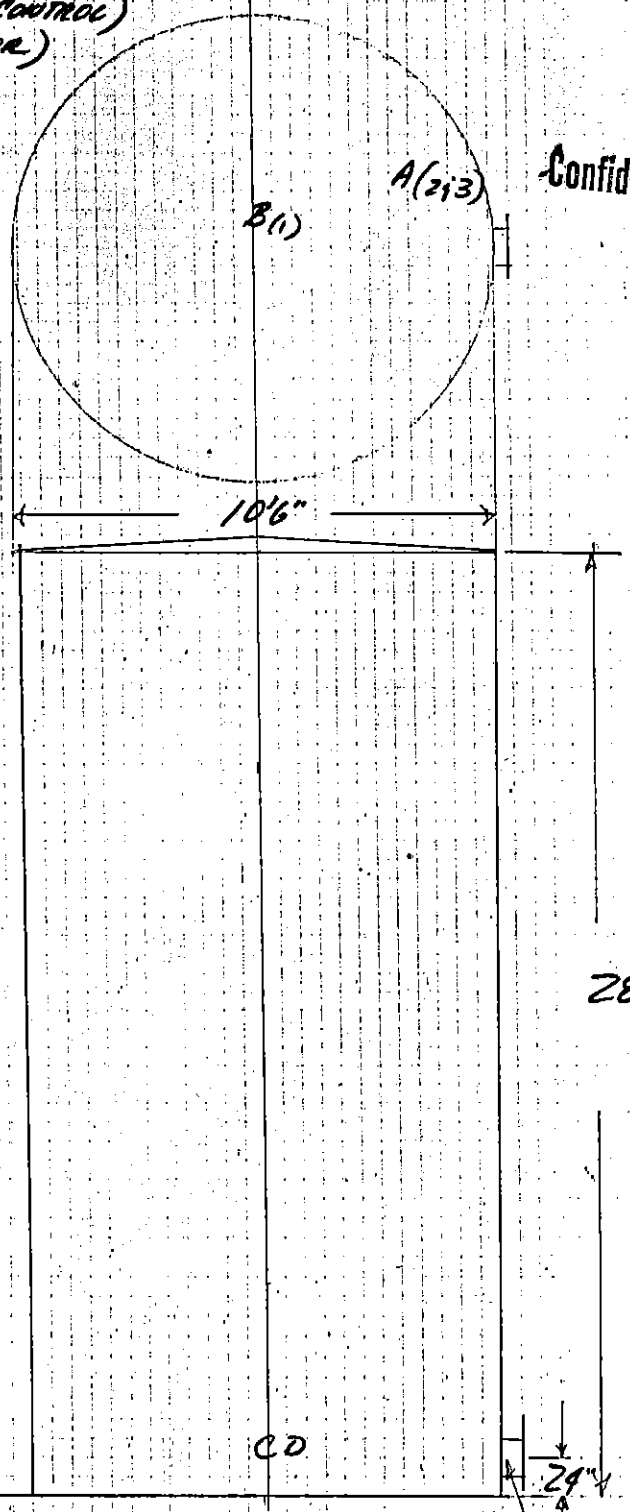
VOLUME: 17000 GALLONS (WORKING CAPC) WASTE STORED: D001, F001, F002, F003 OR F005

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE; LEVEL CONTROL)
B. 3" (BREATHER AND ARRESTOR)
C. 4" - 5" - VALVED
D. 4" - 5" - CAP
E.
F.
G.
H.
I.
J.

TOP VIEW



CONFIDENTIAL

Confidentiality Denied 16 APR 1987

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1

MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 2.69
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .205 6'AG
1986:
1987:
1988:
1989:

#27

TANK IDENT: 210 LOCATION: INJECTANT STORAGE

VOLUME: 23000 GALLONS (WORKING CAP.) WASTE STORED: BLENDED INJECTANT

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE; LEVEL CONTROL)
B. 2" (BREATHER AND ARRESTOR)
C. 3"
D. 8" AGITATOR
E. 3" - 5" - VALVED
F. 3" - 35" - VALVED
G. 3" - 12'5" - VALVED
H. 3" - 6'2" - VALVED
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

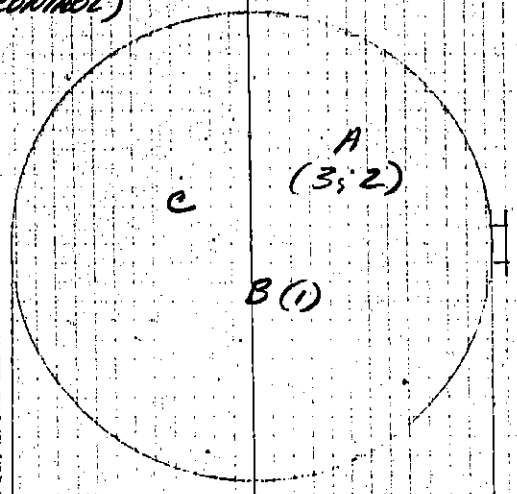
DESIGN STANDARDS:
API 650 A4-1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

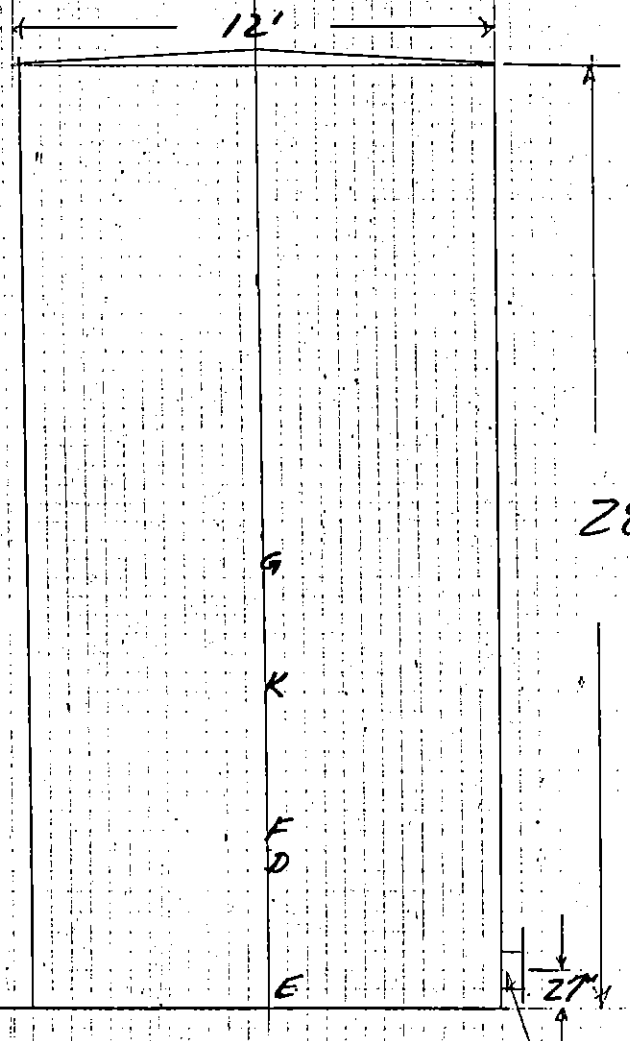
1985: 1.88
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .170 8'AG
1986:
1987:
1988:
1989:

TOP VIEW





TANK IDENT: 211 LOCATION: INJECTANT STORAGE #28

VOLUME: 23000 GALLONS (WORKING CAPC) WASTE STORED: BLENDED INJECTANT

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

A. TOP MANHEAD (GAUGE & LEVEL CONTROL)
B. 3" (INSPECTION)
C. 2" (BREATHER & ARRESTOR)
D. 3" – 18'5" VALVED
E. 3" – 5" VALVED
F. 3" – 12'5" VALVED
G. 3" – 35" VALVED
H. 8" – 26" SIDE AGITATOR
I.
J.

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:

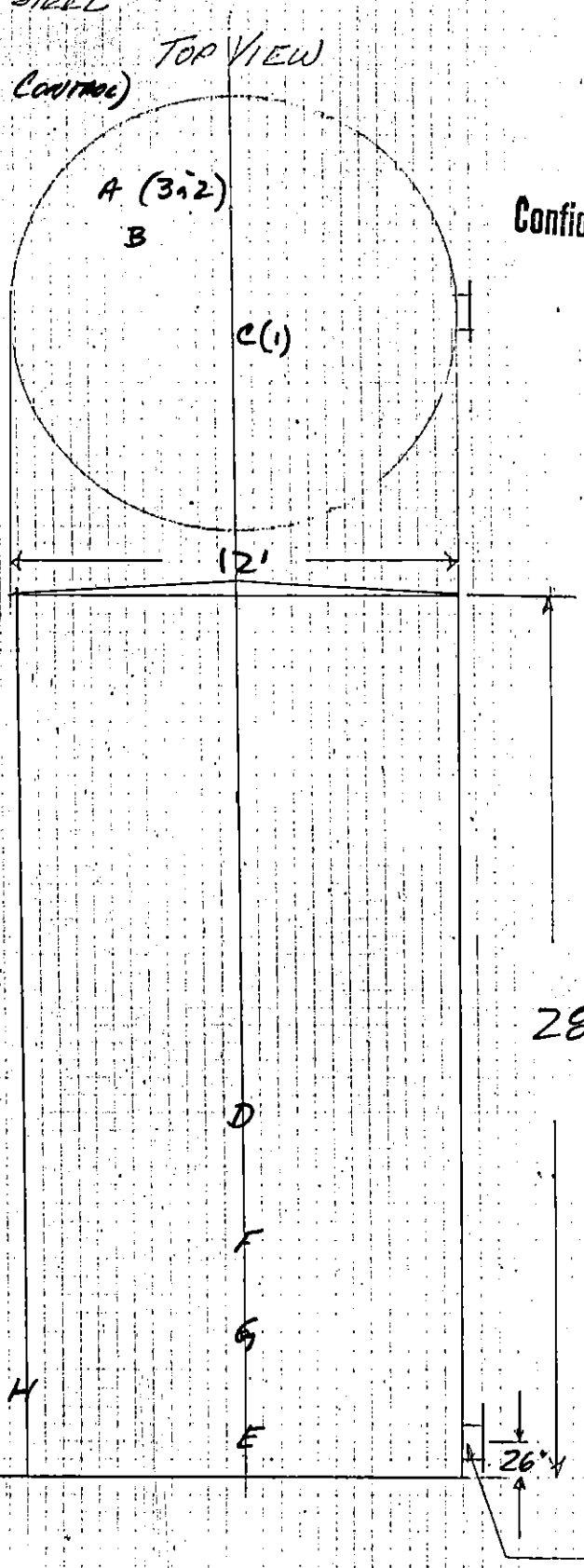
API 650 A4.1

MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:

1985: 2.07
1986:
1987:
1988:
1989:

THICKNESS READINGS:

1985: .178 8'AG
1986:
1987:
1988:
1989:



CONFIDENTIAL

Confidentiality Denied 16 APR 1997

#29

TANK IDENT: 212 LOCATION: INJECTANT STORAGE

VOLUME: 24000 GALLONS (WORKING CAP) WASTE STORED: BLENDED INJECTANT

MATERIAL OF CONST: CARBON STEEL

NOZZLES:

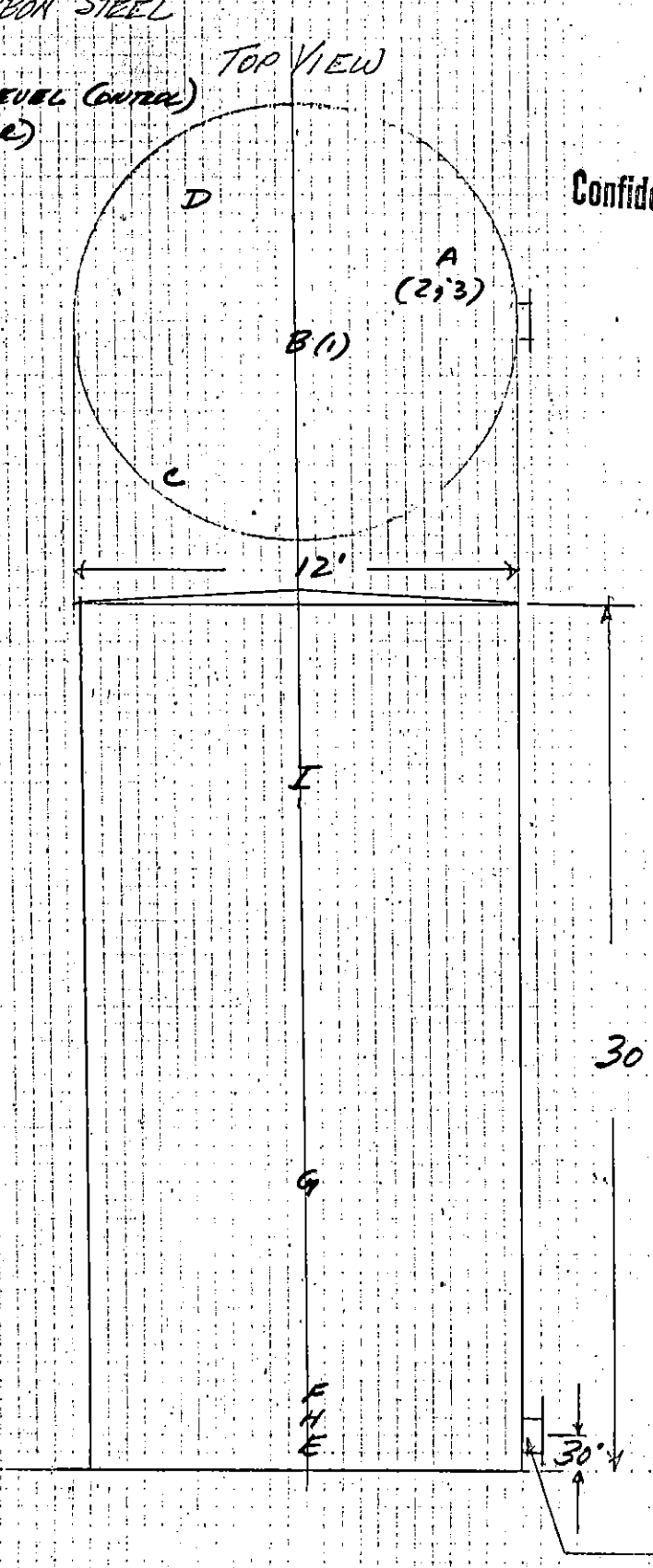
A: TOP MANHEAD (GAUGE & LEVEL CONTROL)
B: 3" (BREATHER & ARRESTOR)
C: 3"
D: 3"
E: 3" - 3" VALVED
F: 3" - 54" VALVED
G: 3" — 10' VALVED
H: 8" - 14" AGITATOR
I: 3" - 20' CAP
J:

SAFETY CONTROLS:

1. BREATHER AND ARRESTOR 2"
2. GAUGE AND LIQUID SEAL
3. LEVEL ALARM

DESIGN STANDARDS:
API 650 A4.1
MAXIMUM WASTE SPECIFIC GRAVITY PER THICKNESS READINGS:
1985: 1.346
1986:
1987:
1988:
1989:

THICKNESS READINGS:
1985: .150 8'AG
1986:
1987:
1988:
1989:



CONFIDENTIAL

Confidentiality Denied 16 APR 1987

#30

SAMPLE MINIMUM THICKNESS CALCULATION PER API 650 A4.1

$$t = \frac{(2.6)(D)(H-1)(G)}{(E)(21{,}000)} + C.A.$$

t = MINIMUM THICKNESS IN INCHES

D = NOMINAL DIAMETER OF TANK IN FEET

H = HEIGHT IN FEET

G = SPECIFIC GRAVITY OF LIQUID (NOT LESS THAN 1.0)

E = JOINT EFFICIENCY = .7

C.A. = CORROSION ALLOWANCE IN INCHES (.09) - $3/32$"

EXAMPLE: TANK 124 1985 MINIMUM THICKNESS = .229"

$$.229 = \frac{(26)(10)(33)(G)}{(.7)(21{,}000)} + .09$$

$$G = 2.38$$

∴ MAXIMUM SPECIFIC GRAVITY OF THE WASTE STORED IN 124 TANK IS 2.38

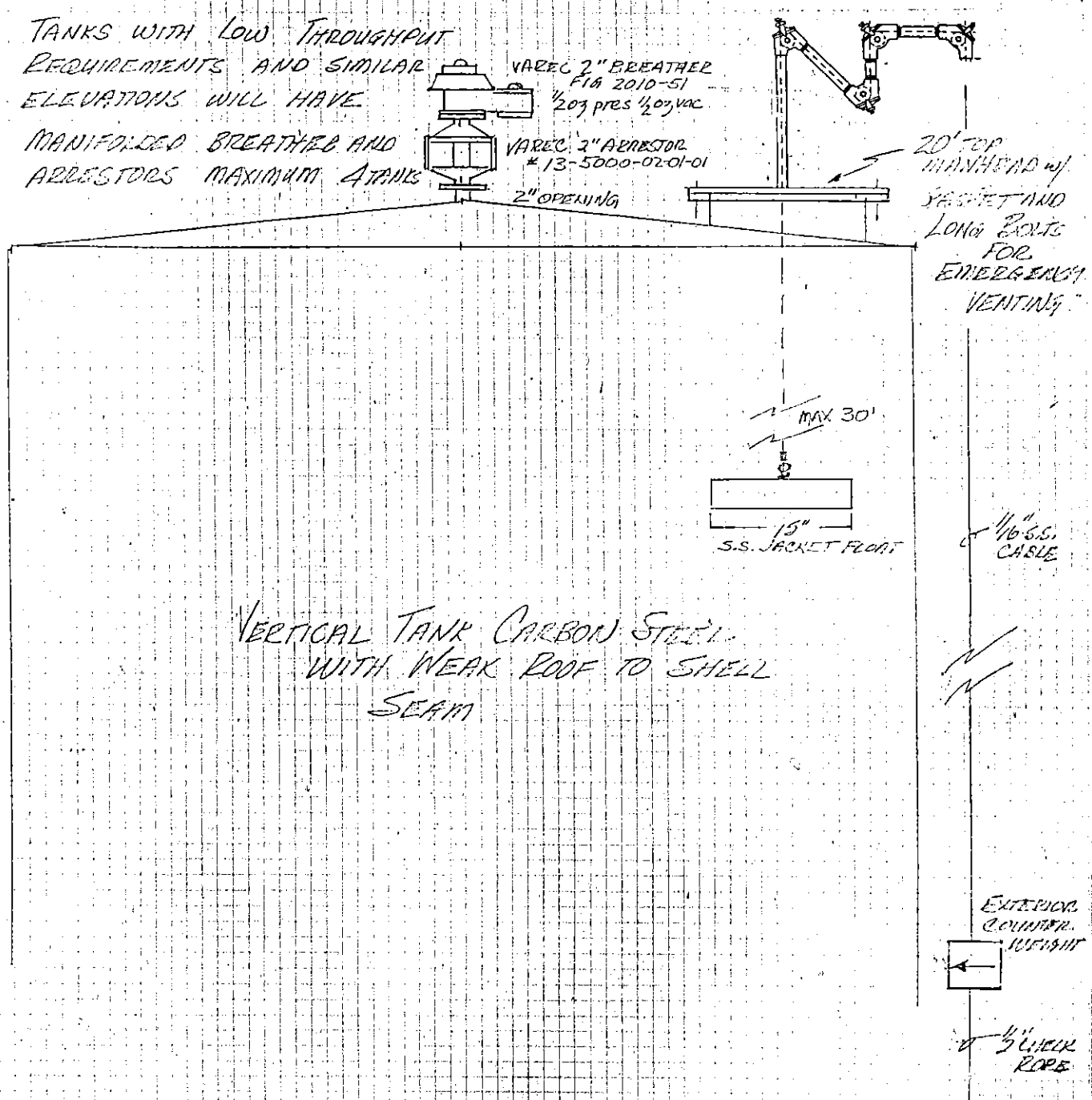
#31

TANK OVERFILL SAFETY ALARM

#32

TANK SAFETY VENT SYSTEM

NOTE: TANKS WITH LOW THROUGHPUT REQUIREMENTS AND SIMILAR ELEVATIONS WILL HAVE MANIFOLDED BREATHER AND ARRESTORS MAXIMUM 4 TANKS



VERTICAL TANK CARBON STEEL WITH WEAK ROOF TO SHELL SEAM

REFERENCES

NUMBER	LOCATION(S) (BY ATTACHMENT NUMBER)
1	D1
2	A5
3	A4
4	A9(f)
5	C4, pg. 2
6	A3
7	C5, pg. 5
8	C7, pg. 1
9	C9
10	A4
11	A9(i)
12	C4, pg. 2
13	A3
14	C2
15	C4, pg. 2
16	A9(c), (d) and (e)
17	C7, pg. 2
18	A2 (pg. 14)
19	A2 (pg. 18)
20	A4
21	C1
22	C4, pg. 2
23	C5, pg. 6
24	From manifests for that period; we possess copies.
25	A1
26	A1
27	C6
28	C7, pg. 2
29	A1
30	A3; A9(b), (g); C4, pg. 2; C5, pg. 5; C7, pg. 3; D1
31	C10
32	C7, pg. 3
33	B1, B2, B3
34	C5, pg. 6
35	C8
36	A6
37	C5, pg. 6
38	C4, pg. 2
39	C3
40	C4, pg. 3
41	C5, pg. 8a
42	C5, pg. 1
43	C5, pg. 6
44	D2
45	D3
46	C7, pg. 1

LIST OF ATTACHMENTS

Number	Item
A1	ACS Part A, Form 3, Page 3 of 5; 8/16/82 revision
A2(a) and (b)	ACS Part B (a) Page 14, (b) Page 18: Contingency Plan
A3	Part B, Page 29, Closure Plan
A4	Part B, Page 31, Closure Cost Estimate
A5	Part B, Page 46, Figure 20-2-4A (Drum Dock)
A6	Part B, Pages 47-48, Figures 2-2-4B and 4C (Recycling Processes)
A7	Part B, Page 49, Figure 2-4-4D (Blending Bin)
A8	Part B, Figure (19)-10 (Facility Topographic Map)
A9(a)-(j)	Part B, 6/3/83 Revision, Personnel Training Attachment; (a) pp. 6-7, (b) p. 15, (c) p. 17, (d) p. 20, (e) p. 22, (f) p. 23, (g) p. 25, (h) p. 25, (i) p. 27, (j) p. 28
B1	Manifest, Number 0697453, Illinois
B2	Manifest, Number 0226374, Michigan
B3	Manifest, Number 1131, Generic
B4	Manifest, Number 0789673, Illinois
C1	RCRA Inspection Form, Remarks, p. 1 of 5, 12/4/80
C2	RCRA Inspection Form, Remarks, p. 3 of 5, 12/4/80
C3	RCRA Inspection Form, Remarks, p. 5 of 5, 12/4/80
C4	Inspection Notes By Richard Shandross, 8/19/83
C5	Inspection Notes By Richard Shandross, 10/12/83
C6	Analytical Report, 1/28/82
C7	Inspection Notes By Richard Shandross, 4/10/84
C8	ACS Laboratory Reports for sample nos. 435, 574, 1442, 1487 and 1692
C9	ACS Drum Dispostion Report Form (ref. B4)
C10	Drum Unloading Dock Inventory Sheet, 7/1/83
D1	Record of Communication by Peter Tong, 8/9/82
D2	Phone Conversation Notes by Richard Shandross, 11/17/83
D3	Phone Conversation Notes by Richard Shandross, 3/26/84

A1

EPA I.D. NUMBER (enter from page 1)

FOR OFFICIAL USE ONLY

W DUP DUP

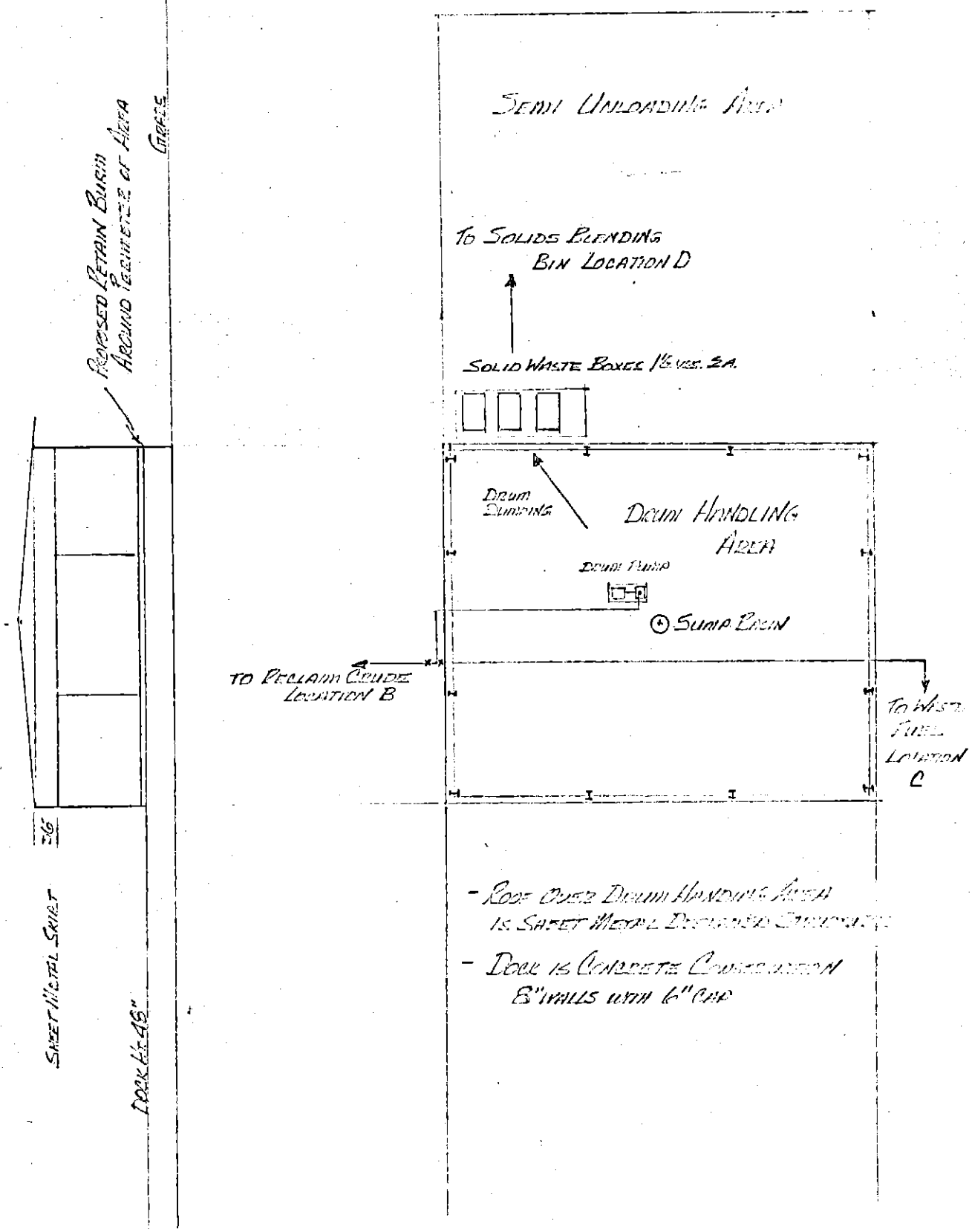
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1			T		
2			T		
3			T		
4			T		
5			T		
6			T		
7			T		
8			T		
9			T		
10			T		
11			T		
12	F017	40	T	S01 T04	
13	K078	42	T	S01 T04	
14	F001	25	T	S01 T04	
15	F002	25	T	S01 T04	
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

Drum Unloading Dock Location A

Scale 1" = 20'

North



Operator - Routine procedures

c) Still startup
Stills are run at atmospheric or vacuum conditions. At the atmospheric condition the startup procedure is as follows:

1) The operator checks that the atmospheric vent valve on the still is open.
2) The operator sets the vent float in case the still later bumps during heatup. This device prevents the contents of the still from foaming out of the still during the run.
3) The operator closes the valve on the vacuum line to the still.
4) The operator records the time and temperature of the pot, vapor, and the cooling water on the condenser outlet.
5) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig usually. Runs of crude methylene chloride, perchlor, and trichlor require initial pressure settings of 30 psig.
6) The operator monitors the still pot temperature. At 120-150F solvents usually begin to vaporize from crude in the still. The vapors pass to the condensor where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still.
7) The operator turns on the product pump when the distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.
8) The operator records the time and temperature when the still starts to distill.

At the vacuum condition the startup procedure is as follows:

1) The operator closes the atmospheric vent valve on the still.
2) The operator opens the valve on the vacuum line to the still.
3) The operator sets the vacuum controls on 30(no vacuum).
4) The operator turns on the vacuum pump and sets the seal water flow at 5 gallons per minute or 5 psig on gauge.
5) The operator slowly adjusts the vacuum controller to a setting of 15.
6) The operator records the time and temperatures of the pot, vapor, and cooling water on the condenser outlet.
7) The operator opens the steam valve to the still heating coil and sets the steam regulator to 40 psig.
8) The operator monitors the still pot temperature. At 110-130F solvents usually begin to vaporize from the crude in the still. The vapors pass to the condenser where they cool and become a liquid which then appears flowing in the sight glass above the product pump on each still. If the material in the sight glass is dirty, the operator turns off steam to the heating coil and sets the vacuum controller to 30. He opens the atmospheric vent on the still after hooking up the nitrogen purge system to the vent.

A9(a)

A check valve on the nitrogen purge system will clatter when the atmospheric condition is reached. The operator removes the nitrogen purge system and goes back to step (1) and starts over again. Any dirty material in the lines is drummed.

9) The operator turns on the product pump when clean distilled solvent first appears in the sight glass. The pump, which can pump ½ to 5 gallons per minute automatically, transfers the liquid to a 1000 gallon receiver.

10) The operator records the time and temperature when the still starts to distill.

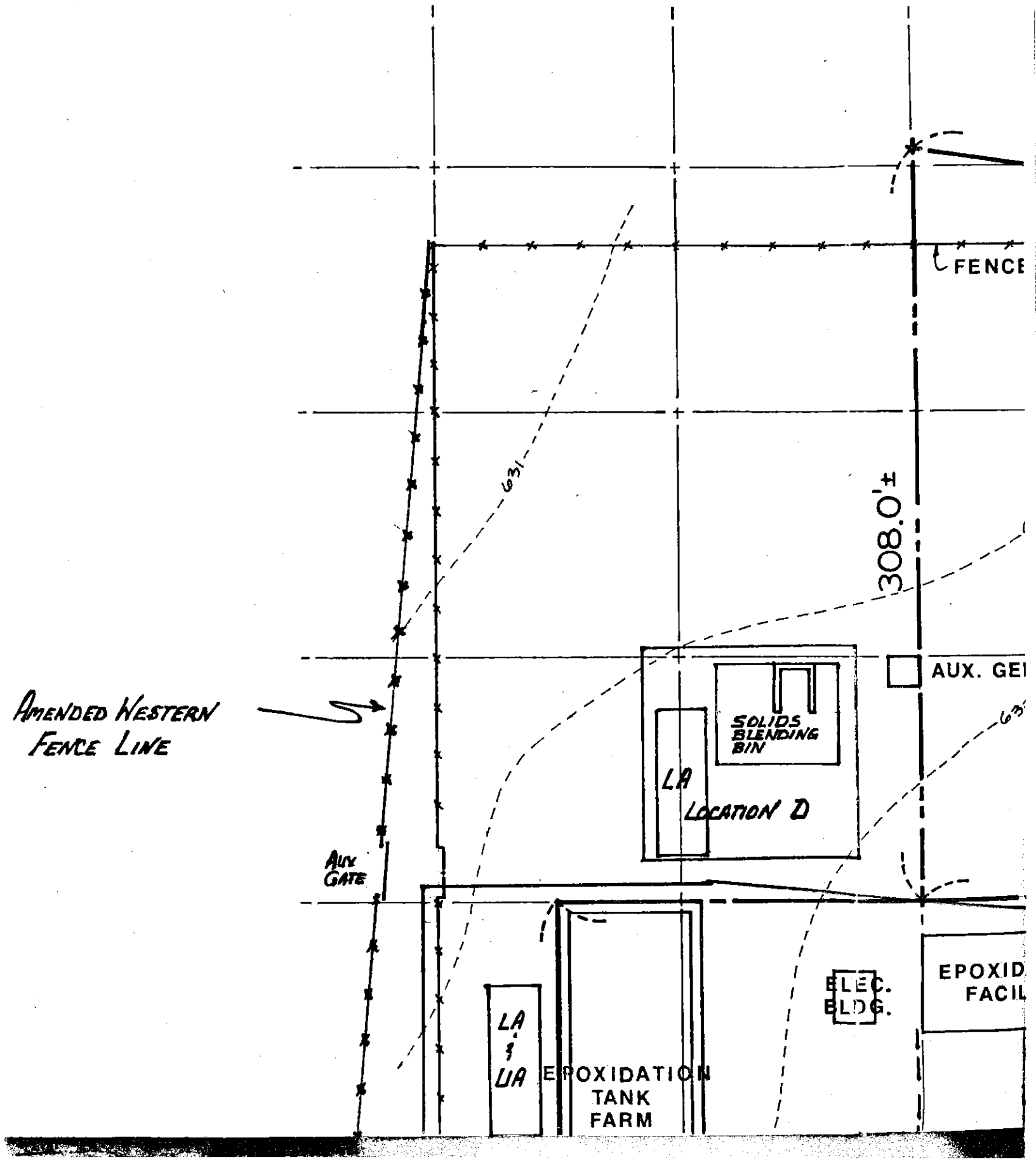
Confidentiality claim denied by Office of Regional Counsel 4/19/85

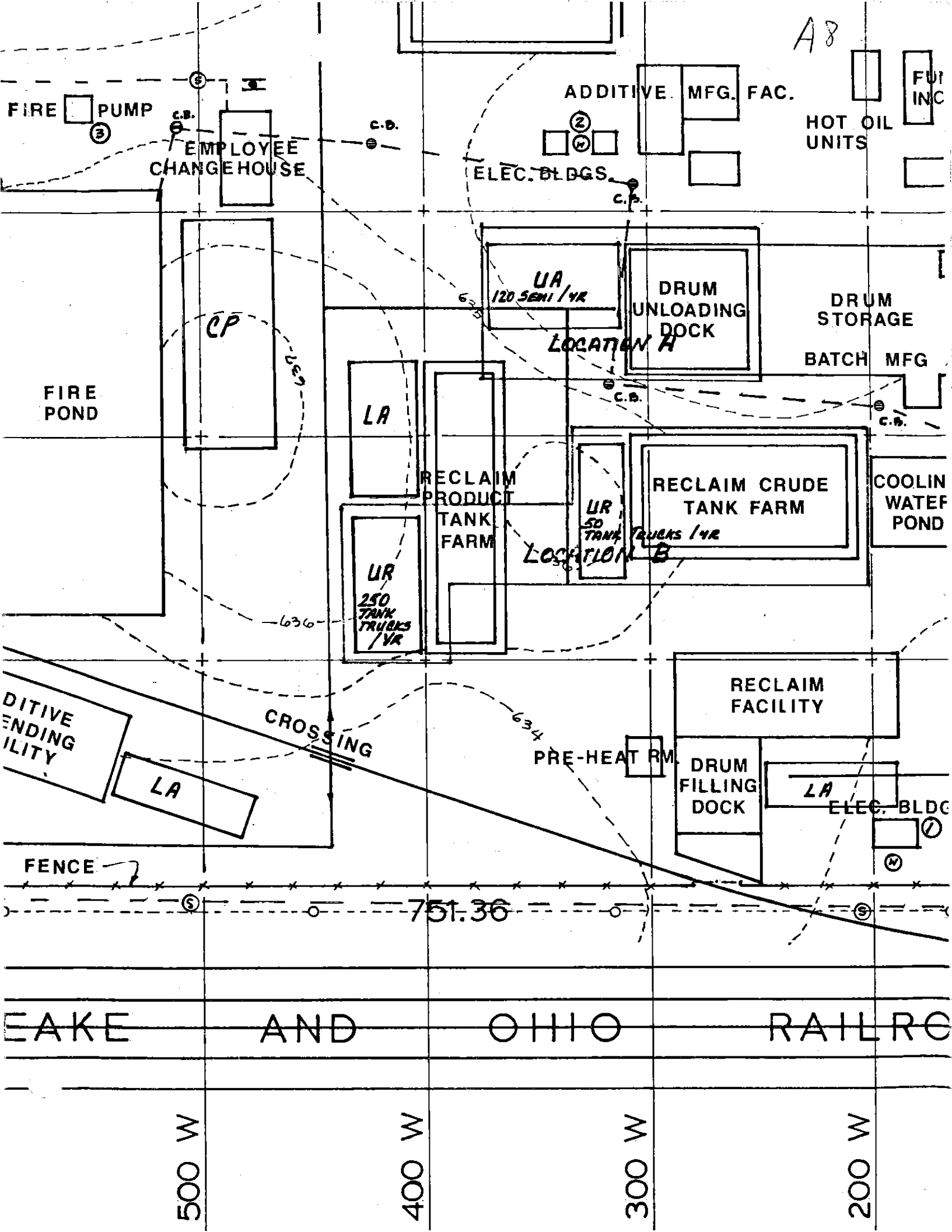
CONFIDENTIAL

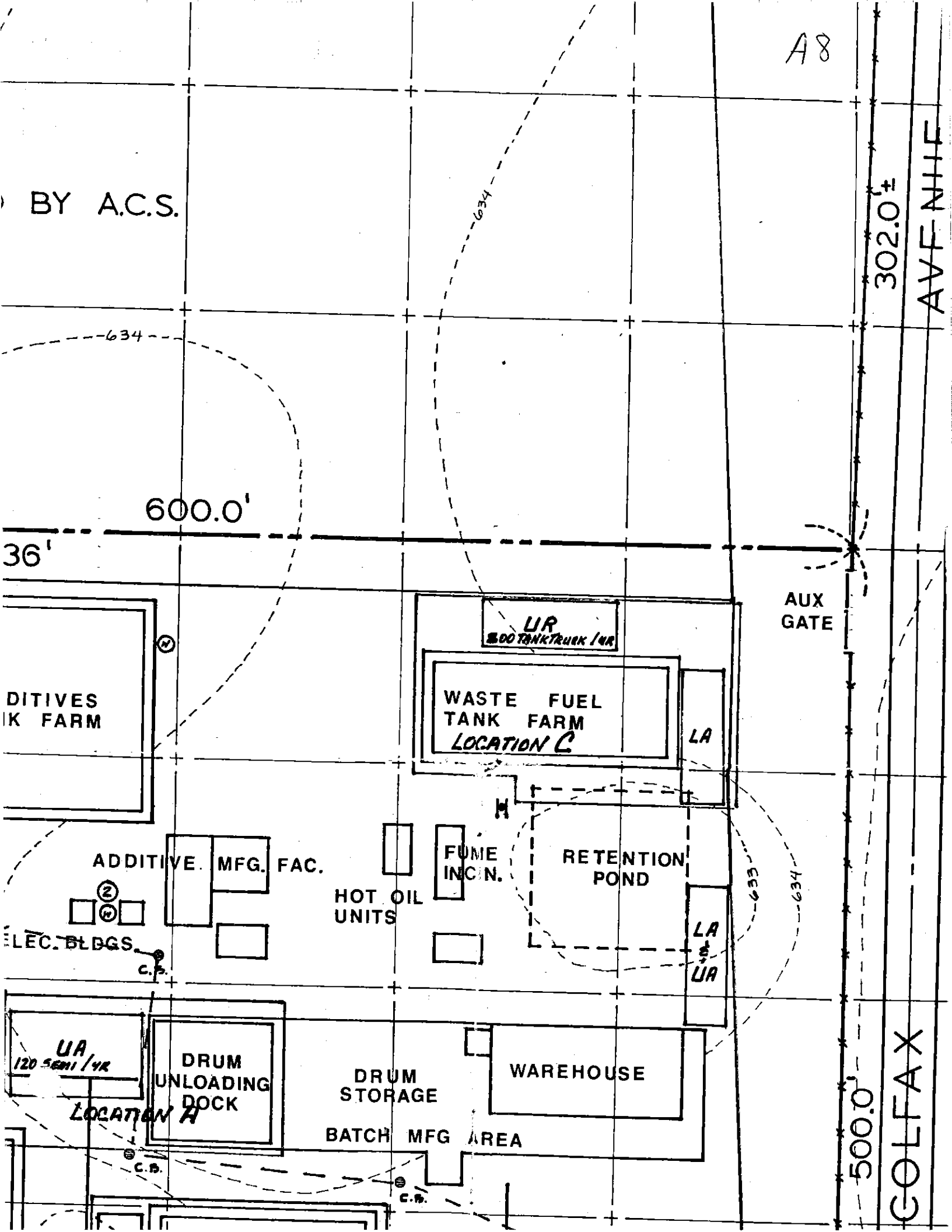
(19) -10

A8

CONFIDENTIAL




A8
FIRE PUMP
EMPLOYEE CHANGEHOUSE
C.B.
ADDITIVE MFG. FAC.
HOT OIL UNITS
ELEC. BLDGS.
UA
120 SEMI / YR
DRUM UNLOADING DOCK
DRUM STORAGE
LOCATION A
BATCH MFG
CP
FIRE POND
LA
RECLAIM PRODUCT TANK FARM
UR
250 TANK TRUCKS / YR
UR
50 TANK TRUCKS / YR
RECLAIM CRUDE TANK FARM
LOCATION B
COOLIN WATEF POND
RECLAIM FACILITY
PRE-HEAT RM.
DRUM FILLING DOCK
ELEC. BLDG
CROSSING
FENCE
751.36
636
634
EAKE AND OHIO RAILRO
500 W
400 W
300 W
200 W


A8
BY A.C.S.
634
634
600.0'
36'
302.0'±
AVE NHF
AUX GATE
UR
TANK TRUCK /YR
WASTE FUEL TANK FARM
LOCATION C
LA
DITIVES
K FARM
ADDITIVE MFG. FAC.
FUME INCN.
HOT OIL UNITS
RETENTION POND
LA & UA
ELEC. BLDGS
C.B.
UA
120 SEMI /YR
DRUM UNLOADING DOCK
LOCATION A
DRUM STORAGE
WAREHOUSE
BATCH MFG AREA
C.B.
C.B.
500.0'
COLFAX

IL 532-610
IPC-62 8/81

TO BE COMPLETED BY WASTE GENERATOR

STATE OF ILLINOIS

ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
2200 CHURCHILL ROAD, SPRINGFIELD, ILLINOIS 62706
(217) 782-6760
SPECIAL WASTE HAULING MANIFEST

B1 0697453
1 7

Authorization Number ____ 8 13

ETHICON, Inc. (Company Name) | 5001 West 67th Street (Address) | 3127678171 (Phone Number) | 0316000260 G (14 Generator Number 24)

Chicago (City) | Illinois (State) | 60638 (Zip) | ILD0103005 31 (EPA Number)

WASTE HAULER(S)

Strand Trucking (Hauler Name) | 13642 Kenton (Hauler Address) | S.W.H. Registration Number 0311012 (25 31)

Leased by Ecological Transfer, Crestwood, Illinois (Hauler Name) | 3123858440 (Phone Number) | ILD0006468 10 (EPA Number)

Hauler Address | S.W.H. Registration Number ____ (32 38)

Phone Number | EPA Number

DESTINATION — DISPOSAL STORAGE OR TREATMENT SITE

American Chemical Service (Facility Name) | 420 South Colfax Avenue (Address) | 9180890 2 (39 Site Number 46)

Griffith (City) | Indiana (State) | 46319 (Zip) | 2197683400 (Phone Number) | IND016360265 (EPA Number)

Alternate (Facility Name) | Address | 39 Site Number 46

City | State | Zip | Phone Number | EPA Number

TO BE COMPLETED BY WASTE GENERATOR

WASTE NAME: Polishing sludge | WASTE PHASE: Liquid (Liquid, Gaseous, Solid)

THE SPECIAL WASTE BEING TRANSPORTED UNDER THIS MANIFEST IS OF THE DOT HAZARD CLASSIFICATION INDICATED IMMEDIATELY BELOW:

SHIPPING DESCRIPTION: Organic solvent | HAZARD CLASS: Flammable | UN1993 (UN or NA Number) | F005 (EPA HW Number)

WEIGHT FOR D.O.T. USE 22000 (LBS) TONS (circle one) | WEIGHT FOR I.E.P.A. USE MUST BE CONVERTED TO CU. YDS. OR GAL. | QUANTITY OF WASTE DELIVERED: 47 4015 52 (1 GALLONS (Circle One) 2 CU. YDS.) 53

METHOD OF SHIPMENT (Circle One) (DRUMS 73 Number) | TANK TRUCK | OPEN TRUCK | OTHER (Specify) Van

THIS IS TO CERTIFY THAT THE ABOVE-NAMED WASTE ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED AND IS IN PROPER CONDITION FOR TRANSPORTATION, IN ACCORDANCE WITH THE APPLICABLE REGULATIONS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND I.E.P.A.

I HEREBY AGREE TO AND CERTIFY THE ABOVE WRITTEN INFORMATION L. Seward (Authorized Signature) | DATE: 5-17-83

WASTE HAULER

I HEREBY CERTIFY THAT THE ABOVE-DESCRIBED WASTE AND QUANTITY HAS BEEN ACCEPTED IN PROPER CONDITION FOR TRANSPORT AND I ACKNOWLEDGE THE DESTINATION AS INDICATED.

(1) Lonard M Strand (Authorized Signature) | DATE: 54 5/17/83 59

(2) _____ (Authorized Signature) | DATE: ___/___/___

DISPOSAL, STORAGE, OR TREATMENT FACILITY*

HAZARDOUS WASTE SUBJECT TO FEE YES ____ NO X

I HEREBY CERTIFY THAT THE ABOVE-DESCRIBED WASTE AND INDICATED QUANTITY HAS BEEN ACCEPTED AT THE SITE SPECIFIED ABOVE.

Michael O'Brien (Authorized Signature) | DATE: 60 5/17/83 65

COMMENTS OR SPECIAL INSTRUCTIONS: _____

24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS

IN ILLINOIS: 217 / 782-3637 | OUTSIDE ILLINOIS: 800 / 424-8802 or 202 / 426-2675

DISTRIBUTION: PART - 1 GENERATOR | PART - 2 IEPA | PART - 3 SITE | PART - 4 HAULER | PART - 5 IEPA | PART 6 - GENERATOR

REV. 8 4

SITE COPY - PART 3

ON DOCK TO 2047K T-50 GRM 8.13.83

STATE OF MICHIGAN

WASTE DISPOSAL MANIFEST

☒ Act 64 Waste (HAZARDOUS) ☐ Act 136 Waste ☐ Other MI 0226374

B2

GENERATOR COMPLETES — IDENTIFICATION

Generator's Name	Primary Transporter's Name	Treatment, Storage or Disposal Facility
Blodgett Hospital	Valley City Refuse Disp	American Chemical Servire
Site Address: 1840 Wealthy S.E. Grand Rapids, MI 49506	Transporter's Address: 2650 Thornwood, SW Wyoming, MI 49509	Facility Address: 420 S. Colfax Ave Griffith, IND. 46319
Phone Number: (616) 774-7794	Phone Number: (616) 538-8499	Phone Number: (219) 924-4370
Generator's Site EPA I.D. Number: MIDO7929231	Transporter's EPA I.D. Number: MFD055855373	Facility Site EPA I.D. Number: INDO163602615

If more than one Transporter is to be utilized, give the Name and EPA I.D. Number of each:

GENERATOR COMPLETES — WASTE INFORMATION

LOT NO.	U.S. D.O.T. Shipping Name (or common name if there is no D.O.T. shipping name)	D.O.T. Hazard Class	U.N./N.A. No.	Haz. Class Code	Container No.	Container Type	Form: Solid	Form: Liquid	Form: Gas	Form: Sludge	Total Weight or Volume	Units	Hazardous or Liquid Waste Number
1.	Waste Xylene	Flamable Liquid	UN1307	07	2	Dr.		X			110	gal	F003
2.													
3.													
4.													
5.													
6.													

COMMENTS — Include Safety precautions and special handling instructions:

Keep From Flame or open Fires

GENERATOR CERTIFICATION: I certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and U.S. EPA. I further certify that the information contained on the manifest is factual. I understand that the failure to accurately report all information requested by the manifest constitutes a violation of 1979 PA64 and/or 1969 PA136. I further understand that this manifest may be used in administrative and court proceedings.

Generator Signature: ① Frederick A. Gill — Date Shipped MO. DAY YEAR: 07 07 83

TRANSPORTER COMPLETES

HAULER'S CERTIFICATION: I certify acceptance of the above identified wastes for transportation. I further certify that I shall deliver the hazardous wastes, together with this manifest, only to the destination specified by the generator on this manifest. I understand that this manifest can be used in administrative and court proceedings.

Transporter Vehicle I.D. No. 1: H-830366

Transporter Signature: ② Russell L Hennigan — Date(s) Received: 07 07 83

Subsequent Transporter Vehicle I.D. No's:

Subsequent transporter(s) signature(s): ③

If the shipment cannot be delivered, describe the reasons for non-delivery.

TSDF COMPLETES

TSDF CERTIFICATION: I certify receipt at this facility of the above identified wastes and that this facility is licensed to accept those wastes. I also certify that the wastes were accompanied by a manifest properly certified by both the generator and hauler and that this facility is the destination indicated on the manifest. I understand that this manifest can be used in administrative and court proceedings.

TSDF Signature: ④ — ☒ Accepted ☐ Rejected — Date Received: 7 8 83

Facility Site EPA I.D. Number: INDO163602615

Describe any significant discrepancies between manifest and shipment.

Was a Surcharge Assessed? ☐ Yes ☒ No

ALL SPILLS M[AY] 800—424-8802 [MUST B]E REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 800—292-4706 OR OUT-OF-STATE AT 517—373-7660 AND THE NATIONAL [RESPO]URS PER DAY. [RE]SPONSE CENTER AT

On dock 7-8-83

TSDF COPY

To 204K T-50 Okay 7-12-83

HAZARDOUS WASTE MANIFEST

B3

1131
MANIFEST DOCUMENT NUMBER

Strand Trucking
NAME OF CARRIER (SCAC)

SHIPPER NUMBER
40113
CARRIER NUMBER

IDENTIFICATION

	12 DIGIT EPA ID #	COMPANY NAME, MAILING ADDRESS, AND TELEPHONE NUMBER	DATE SHIPPED OR RECEIVED
GENERATOR/ SHIPPER	IND0006068050	Delco Electronics Bypass 317-459-1406 700 E. Firmin St., Kokomo, In. 46902	
TRANSPORTER # 1	ILT000640810	Strand Trucking 312-385-8440 13642 S. Kenton Ave., Crestwood, Il 60445	
TRANSPORTER # 2 (if required)			
TSDF TREATMENT STORAGE OR DISPOSAL FACILITY	IND006360265	American Chemical Services 219-924-4370 420 South Colfax, Griffith, In. 46819	7/7/83
TSDF TREATMENT STORAGE OR DISPOSAL FACILITY		ALTERNATE	

WASTE INFORMATION

NO. OF UNITS & CONTAINER TYPE	HM	EPA HAZ WASTE ID #	DESCRIPTION AND CLASSIFICATION (Proper Shipping Name, Class and Identification Number per 172.101, 172.202, 172.203	UN # or NA #	EXEMPTION OR NO LABELS REQUIRED	FLASH POINT (IN °C) WHEN REQ'D	UNITS WT/VOL	TOTAL QUANTITY	RATE	CHARGES (For Carrier Use Only)
10-55ga drums	X	F001	Waste Hazardous Liquid, N.O.S., ORM-E	NA 9189	none	-	10# gal	1100 gallons		
10-55ga drums	X	F003	Waste Flammable Liquid, N.O.S., Flammable Liquid	UN 1993	Flammable Liquid	121°F	7.5# gal			

SPECIAL HANDLING INSTRUCTIONS

If an RQ commodity is spilled on a waterway or adjoining land, the incident must be promptly reported to the Federal government at 1-800-424-8802 (toll free) or 202-426-2675 (toll call). If other DOT Hazardous Materials are discharged creating a serious situation, call shipper's telephone number or Chemtrec 1-800-424-9300 immediately.

COMMENTS

On "Collect on Delivery" shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1

PLACARDS TENDERED
Yes ☐ No ☒

REMIT C.O.D. TO:
ADDRESS

COD Amt: $

C.O.D. FEE:
PREPAID ☐
COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID ☐ except when box at right is checked
Check box if charges are to be collect ☐

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding.
$ _____ per _____

"If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."
_____ Signature

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
_____ (Signature of Consignor)

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CERTIFICATION

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the U.S. Environmental Protection Agency.

Kenneth Porter 7-07-83
GENERATOR'S SIGNATURE DATE

This is to certify acceptance of the hazardous waste shipment.
TRANSPORTER #1 SIGNATURE & DATE
TRANSPORTER #2 SIGNATURE & DATE (if required)
This is to certify acceptance of the hazardous waste for treatment, storage or disposal.
Richard D Bass 7/7/83
TSDF SIGNATURE DATE

5

TSDF COPY

On dock 7-7-83 70 TO 20 YE T-50
4 TO 117 RT-63 GAM GAM 7-12-83

American Chemical Service INc. IND 016360265

CLOSURE COST ESTIMATE - AMENDED 8-16-85

The closure cost estimate is based on the following assumptions:

1. Maximum waste in storage tanks and container storage.
   153,700 gal. in crude solvent storage.
   16,500 gal. in container storage.
   145,000 gal. of injectant and blending stock
   150,000 lbs. of high chloride injectant blending stock.

2. Reclamation and injectant blending plants operated at present through put volumes, below maximum capacity.

3. Waste codes in inventory, only those shown in revised Part A.

4. No economic value of reclaimed solvents produced during closure.

5. No net cost of material produced and shipped as blast furnace injectant. Cadence Chemical Resource letter attached.

6. Disposal of high chloride blending stock to be 22¢ per pound, Mr. Frank letter attached.

7. Disposal of solid tank settlings to be $55.00 per drum. Fondessy invoice attached.

8. No economic value of decontaminated equipment.

9. Labor costs to be $10.00 per hour; an overhead factor of four.

CLOSURE COST ESTIMATE

1. Container storage area		
A. Pump 300 drums 24 man hours.		
B. Solids dug and combined 16 man hours		
total	40 man hours	$1600.00
2. Reclamation tank farm		
A. Pumping to distillation equipment and processing into distillate and distillation bottoms.	128 man hours	$5120.00
3. Injectant and blending stock tanks		
A. Injectant blended and shipped to steel company	160 man hours	$6400.00
B. Cost for 150,000lbs at 22¢/# high chloride material shipped to incinerator (See Mr. Frank letter attached)		$33000.00
4. Decontamination		
A. Container storage scrape pad and sump	8 man hours	320.00
B. Reclamation tank opened and decontaminated	172 man hours	6880.00
C. Injectant blending stock tanks opened and decontaminated	160 man hours	6400.00
D. Injectant blend tanks combined and decontaminated	96 man hours	3840.00
E. Total solids for disposal		
Container area	31 drums	
Reclam. flat bottom tanks	80 drums	
Reclam. cone bottom tanks	15 drums	
Injectant blend stock tanks	146 drums	
Blended injectant tanks	73 drums	
total	345 drums @ $55.00/drum	18975.00
F. Final decontamination of piping, pumps and tanks with water and detergent; and disposal of wash water. See Correct Maintenance letter attached		40000.00
total		122535.00
Contingency factor (20%)		25597.00
Funded Value of Trust		148132.46

20-2-48

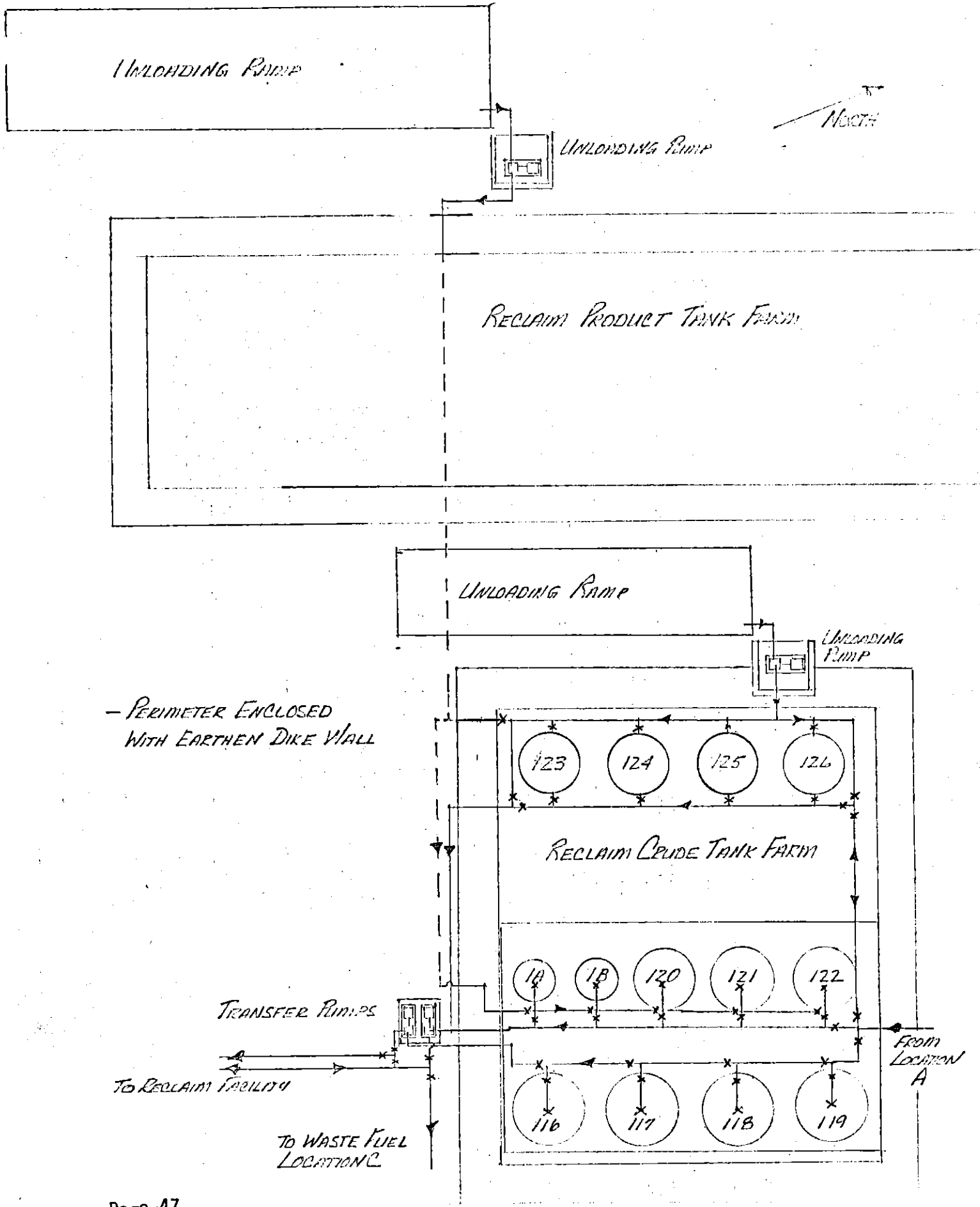
CONFIDENTIAL

RECLAIM CRUDE LOCATION L

SCALE 1" = 20'

AUG 82

A6



A6

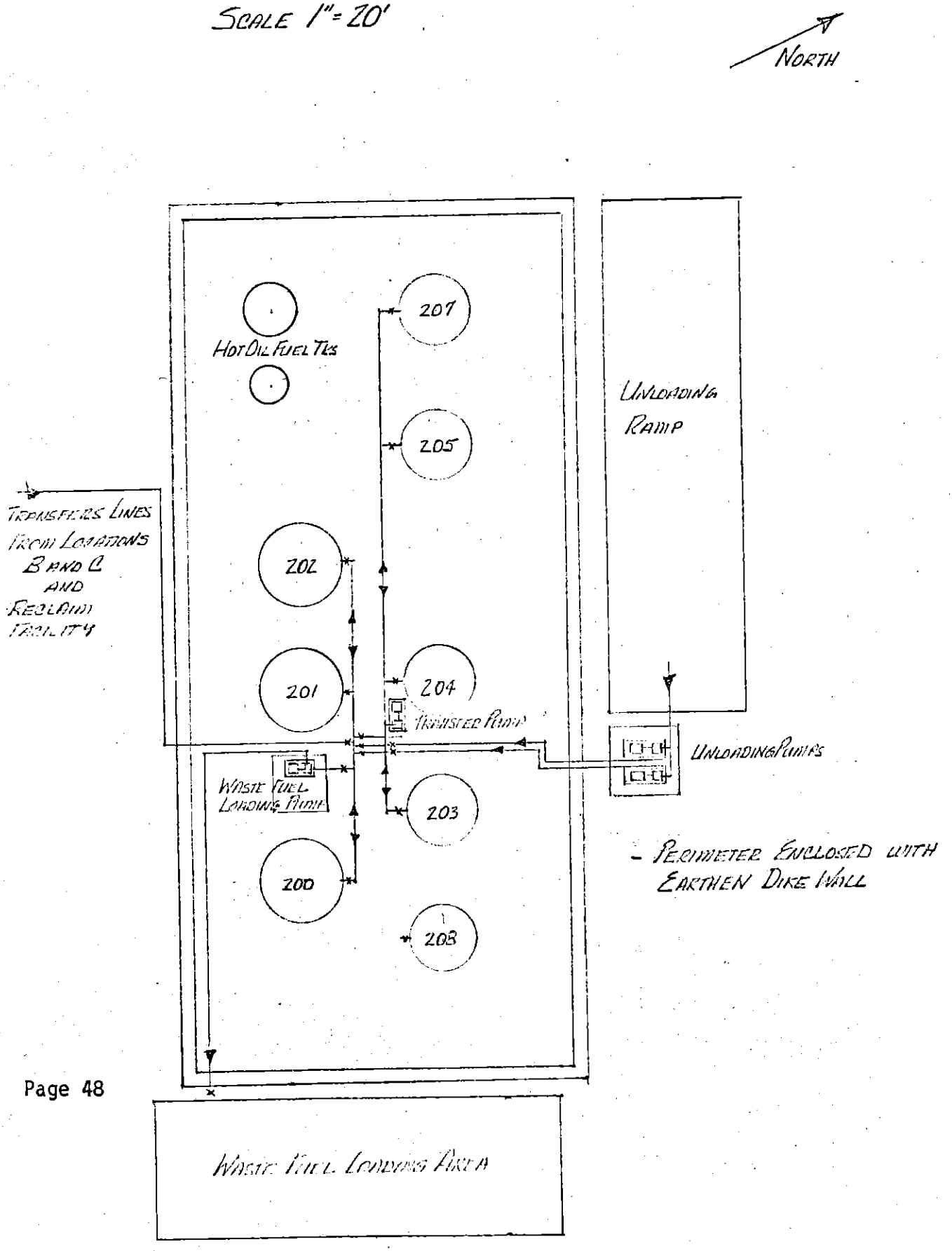
20-2-4C

CONFIDENTIAL

AUG 82

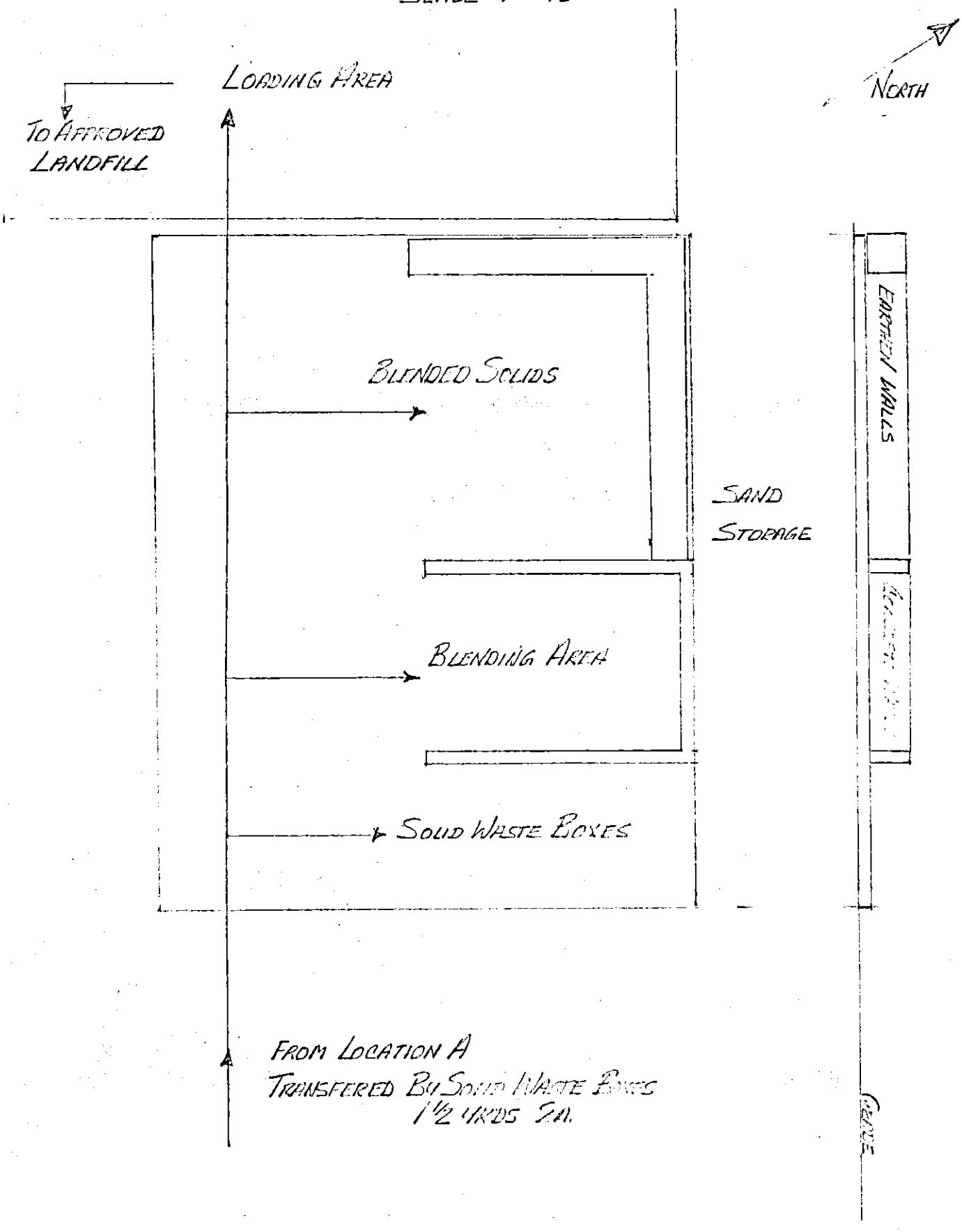
WASTE FUEL LOCATION C

SCALE 1" = 20'



Solids Blending Bin Location D

Scale 1" = 10'



2) Unloaders

Unloaders pump hazardous waste in tank wagons at unloading ramps in Location B and C. (See Figure 1) to storage tanks. They also unload drums of hazardous waste from box trailers to Location A (See Figure 1) and pump their contents to storage tanks in Location B or C.

Routine procedures are as follows:

a) Unloading tank wagons of hazardous waste.

b) Unloading box trailers of hazardous waste at Location A.

c) Pumping hazardous waste in drums at Location A to storage tanks.

d) Changing viscous liquids in drums to small blending tank at Location A.

e) Pumping liquids in small blending tank at Location A to storage tanks at Location C.

f) Transferring solid material remaining in drums after pumping at Location A to bins.

Detailed procedures for steps (a) through (f) are attached.

A 9(c)

21) The unloader removes the unloading hose slowly from the tank wagons.
22) The unloader signs the manifest papers with the supervisor's approval and returns them to the driver.
23) If the filter on the suction side of the transfer pump should plug during unloading, the following steps are taken:

i) The unloader closes the valve on the suction side of the filter.
ii) The unloader turns off the transfer pump.
iii) The unloader opens the nitrogen valve on the top of the filter to blow material out of the filter.
iv) The unloader closes the valve on the nitrogen line.
v) The unloader closes the valve on the outlet of the filter.
vi) The unloader opens the bleeder valve to relieve the nitrogen pressure in the filter.
vii) The unloader removes the lid and cleans the filter dumping its contents into an openhead drum.
viii) The unloader replaces the lid.
ix) The unloader tests the filter gasket with nitrogen pressure.
x) The unloader opens the inlet and outlet valves on the filter.
xi) The unloader turns on the pump and continues unloading the tank wagon.

Confidentiality claim denied by Office of Regional Counsel 4/19/85

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Unloader - Routine procedures

c) Pumping hazadous waste in drums at Location A to storage tanks. A pump centrally located on the raised pad at Location A is used to pump the liquid in the drums to storage tanks in Location B or C. Figures 2,4, and 5 show the pump, lines, tanks, and valves. The procedure for pumping the liquid in the drums is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in specified drums to a designated storage tank.
2) The unloader measures the void space in inches on the designated tank to check if the tank will hold the gallons of liquid in the drums. Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader closes the valve on the discharge of the pump at Location A.
4) The unloader walks the line from the drum storage area to the storage tank, opening the proper valves and closing unused valves attached to the line.
5) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
6) The unloader opens the valve on the storage tank.
7) The unloader slowly loosens the bung on the first drum.
8) The unloader places the charge pipe into the first drum with the valve on the charge pipe closed.
9) The unloader opens the valve on the discharge of the pump.
10) The unloader starts the pump.
11) The unloader opens the valve on the charge pipe.
12) The unloader opens the air bleeder valve on the pump until air is evacuated from the system.
13) The unloader closes the valve on the charge pipe after emptying each drum so that air will not be drawn into the system.
14) The unloader closes the valve on the charge pipe and then turns off the pump after two drums are pumped.
15) The unloader walks the line looking for leaks, and he also checks the pin to make sure that the material is being pumped to the correct tank.
16) The unloader continues to pump the specified drums.
17) The unloader closes the valve on the charge pipe after the last drum is emptied.
18) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
19) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.
20) The unloader rolls the empty drums to a trailer spotted at Location A.
21) If the filter on the suction side of the drum pump should plug during pumping the following steps are taken:
    i) The unloader removes the charge pipe from the drum allowing air to enter the filter to clean the liquid from the filter body.
    ii) The unloader turns off the pump and immediately closes the valve on the discharge of the pump.
    iii) The unloader opens the lid and cleans the filter dumping its contents into an openhead drum.
    iv) The unloader replaces the lid.
    v) The unloader places the charge pipe into a drum and closes

Unloader - Routine procedures

d) Charging viscous liquids in drums to small blending tank at Location A.
A 1000 gallon blending tank is used to hold liquids too viscous or thick to handle with the regular drum pump. The viscous contents of drums are dumped into a 4 x 4 box where they are pumped to the blending tank (See Figure 5). The procedure is as follows:

1) The unloader rolls the drum to a position in front of the dumping ramp.
2) The unloader checks the void space in the blending tank to make sure that it can hold the contents of the drum.
3) The unloader starts the dumping box pump setting valves so that the liquid will be pumped to the blending tank.
4) The unloader slowly loosens the 2 inch bung and removes it from the drum.
5) The unloader slowly pushes the drum over to the horizontal position on the dumping box ramp.
6) The unloader slowly removes the 3/4 inch bung by positioning himself on the grating beside the dumping box ramp.
7) The unloader removes solid material that may collect on the dumping box screen with a shovel placing it in an open-head drum.
8) The unloader takes a sample of the material in the tank when it is about 2/3 full and gives it to the supervisor.
9) The unloader dumps thinning material into the dump box, if instructed by the supervisor, to thin down the viscous liquids in the blending tank.
10) The unloader rolls the empty drums to a trailer spotted at Location A.

Unloader - Routine procedures

e) Pumping liquids in small blending tank at Location A to storage tanks in Location C.
Figures 4 and 5 show the location of the blending tank and storage tanks. The procedure is as follows:

1) The unloader is instructed by the supervisor to pump the liquid in the blending tank to a designated storage tank in Location C.
2) The unloader measures the void space in inches on the storage tank to check that the tank will hold the gallons of liquid in the blending tank (usually 1000 gallons). Table 1 shows the gallons and corresponding inches for each tank.
3) The unloader walks the line from the small blending tank area to the storage tank, opening the proper valves and closing unused valves attached to the line.
4) The unloader sets the pin on the weld mark on the tank approximately 5 feet off the ground.
5) The unloader opens the valve on the storage tank.
6) The unloader turns on the pump at the blending tank.
7) The unloader opens the bottom valve on the blending tank.
8) The unloader looks into the manway of the tank to make sure that the material is being pumped from the tank.
9) The unloader walks the line to the storage tank to check for leaks.
10) The unloader watches the pin move on the gauge to check that the material is being pumped to the proper storage tank.
11) The unloader remains in the area during the pumping of the material.
12) The unloader watches the blending tank go empty and then closes the bottom valve on the tank.
13) The unloader turns off the pump and immediately closes the discharge valve on the pump.
14) The unloader closes the valve on the storage tank first and then closes the valves on the transfer line.

A9(g)

Unloader - Routine procedures

f) Transferring solid material remaining in drums after pumping at Location A to bins.
Bins are spotted at the southwest corner of the raised pad at Location A (See Figure 5). Solids remaining in the drums are dumped into these bins. The procedure is as follows:

1) The unloader removes the lid of the drum. If it is a tighthead drum, he uses a drum cutter to remove the head of the drum.

2) The unloader dumps the solid contents of the drum into a bin spotted at Location A by tipping the drum and leaning its top rim against the lid of the bin.

3) The unloader closes the lid of the bin when the solid level is about 6 inches from the top.

Confidentiality claim denied by Office of Regional Counsel 4/19/85

CONFIDENTIAL

3) Tractor driver

Some shipments of drums of hazardous waste arrive in trailers which are not the same height as the raised pad at Location A. The tractor driver unloads the drums form the trailer and hauls them to the raised pad.

The tractor driver also hauls the bins containing solid material from drums at Location A to the solids blending bin a Location D (See Figure 1). Routine procedure are as follows:

a) Unloading trailers of hazardous waste with the tractor.

b) Transfer of bins from Location A to Location D. Detailed procedures for (a) and (b) are attached.

A9(i)

Tractor driver - Routine procedures

b) Transfer of bins from Location A to Location D.

Bins are filled by the unloader with solid waste from drums at Location A. The supervisor instructs the tractor driver to haul the full bins to the blending bin at Location D. The procedure is as follows:

1) The tractor driver checks the level in the bin, which should be about 4 to 6 inches from the top.

2) The tractor driver hauls the bin with the forks of the tractor to the solids blending bin at Location D at a very slow speed.

3) The tractor driver positions the bin over the diked area about 4 feet off the ground tilting the bin slightly forward.

4) The tractor driver pulls the lever on the bin causing it to dump its contents into the sand dike.

5) The tractor driver resets the bin to the upright locked position.

6) The tractor driver returns the empty bin to Location A.

Confidentiality claim denied by Office of Regional Counsel 4/19/85

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A96)

4) Laborer

Laborers assist tractor drivers and unloaders in unloading box trailers and pumping drums. Their efforts are regularly directed by supervisors, unloaders or tractor drivers. They also dig solids which collect in the storage tanks and stills during processing. The routine procedures are as follows:

a) The laborer rolls drums from a box trailer to the tractor bucket or the raised pad at Location A.
b) The laborer assists the unloader in pumping drums at Location A by opening bungs on designated drums or transferring the charge pipe from one drum to another which is already opened.
c) The laborer assists the unloader in changing viscous liquids from drums to the small blending tank by rolling drums to the dump box ramp or dumping their contents into the dump box.
d) The laborer assists the unloader in transferring solids remaining in the drums to the bins. He cuts out the heads of drums if needed and dumps their contents into the bins.
e) The laborer rolls empty drums to the spotted trailer.
f) The laborer digs solids which collect in stills and storage tanks during processing. The procedure is as follows:

i) The supervisor inspects the tank or still and signs his name on the digging sheet.
ii) The laborer positions the breathing apparatus near the tank.
iii) The laborer checks that both breathing air cylinders are charged.
iv) The laborer puts on the protective clothing, boots, and gloves.
v) The laborer enters his name, time, and the name of the person watching him while he is inside digging the tank.
vi) The laborer turns on the air cylinder and sets the rotameter to 15-20, which should last 30 minutes.
vii) The laborer places the protective breathing helmet over his head and face. He makes sure that he feels the flow of fresh air in the helmet.
viii) The laborer enters the tank using a spark-proof shovel to dig the solids.
ix) The laborer immediately exits the tank if he senses a loss of air, if he feels dizzy, or if he feels a burning sensation on his skin.
x) The laborer shovels the solids to a bin or an openhead drum.
xi) When the job is completed, the laborer enters the time on the digging sheet.
xii) If the person watching the laborer sees the rotameter fall or the pressure gauge on the air cylinder reach 200, he notifies the laborer to exit the tank. The laborer removes the helmet, changes the cylinder, then continues digging.

A2(a)

1. The hand-held dry chemical fire extinguishers are ABC type. They contain 20 pounds of dry chemical. Their location throughout the plant is shown in Figure 6. Hoosier Fire Equipment, Inc., Valparaiso, Indiana, regularly maintains and tests these extinguishers. The hand-held units are used on small fires within three feet of the base of the flames. All units are activated by a single valve for use by one man.

2. The wheeled dry chemical engines are ABC type. They contain 145 pounds dry chemical. The location of these two units is shown in Figure 6. Hoosier Fire Equipment regularly maintains and tests these extinguishers. The engines are specifically engineered for "one man" operation. They are designed to pass through normal doorways and are maneuverable across rough or broken terrain to insure accessibility to the fire. The engines are activated by a single valve and have an integral gauge for visual inspection. When fire occurs, the engines are wheeled to within approximately 40 feet upwind of the fire. The nitrogen valve is opened fully and the hose is uncoiled. The nozzle is opened and directed at the base of the flame with a side to side motion. Straight flow is used when within 10 feet of flames. The engines are designed for use on small to moderate fires.

3. The foam systems are HL-6 hand line foam nozzle type for use with National hand line foam liquid. With a water capacity of 60 gpm at 100 psi and a 3% concentration of foam liquid, the system produces 600 gpm of foam with a long range stream of 65 to 70 feet. The location and range of the three units are shown on Figure 7. Each system has an independent source of water. When foam nozzles are used, particular care should be taken to apply the foam as gently as possible. For straight stream use, the foam should be banked off the side of a wall or other obstruction. Foam can also be rolled onto the surface by hitting the ground in front of the spill or fire. Care should be taken to minimize the mixing of the foam and fuel. The system is designed for single man operation on moderate to large chemical fines.

4. The caterpillar tractor is a front end type and is on the site 24 hours a day. It is owned and operated by Leon Wells who is on 24 hour call. The unit is used to apply and remove sand for containment and cleanup of a spill. The spent sand is loaded into a dump box and hauled to Gary Land Development. Approximately 200 yards of sand are availble on the site to control any spill.

b. In case of a tank wagon spill of hazardous waste in an undiked area, the emergency coordinator must positon fire fighting equipment near the spill. He then mobilizes the mobile equipment to dump sand on the affected area which is then removed to a dump box. During the cleanup all Unnecessary traffic must be dept 100ft. away from the area.

c. In case of the rupture of drums of a hazardous waste the emergency coordinator must position fire fighting equipment near the spill. He then removes full drums away from the area. Sand is applied to the spill and is then removed to a dump box.

d. In the case of any spill the emergency coordinator notifies plant personnel to perpare for immediate facility shutdown. All loading or unloading operations are halted.

e. In case of fire the emergency coordinator orders immediate facility shutdown at the reclaim, additives, epoxidation, additivres blending, batch manufacturing, and warehouse areas. This shutdown includes the breaking of electrical mains in all areas except on cooling water pumps and deep well pumps. He then mobilizes appropriate dry chemical or foam system to combat the fire.

7. If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility he must report his findings as follows:

   a. If his assessment indicates evacuation of local areas may be advisable he must notify the Griffith Police immediately. Homes and businesses south of the facility, 1/8 mile away, must evacuate south on Arbogast. Also northbound traffic is stopped at the intersection of Arbogast and Avenue H approximately ½ mile south of the facility. Southbound traffic is stopped at the intersection of

A3

(13) Closure Plan - Amended 5-19-82

1. American Chemical Service is a growing diversified chemical processing and manufacturing company. Hazardous waste activity accounts for about 40% of its total business. With proper maintenance, its span of operation is indefinite.

2. The total storage capacity for crude materials (drums and tanks) for distillation and fuel blending is 363,500 gallons.

3. Steps and timing to decontaminate facility.

A. Pump contents of drums to bulk storage. Cut open drums not completely emptied. Dump solids into bins and mix with sand. Landfill sand mixture. Empty drums go to drum reconditioner. Wash pad with detergent 100 gallons needed. Landfill wash water. Fourteen days to complete.

B. Pump liquids from tanks into tank trucks and haul to waste fuel processor. Fourteen days to complete.

C. Flat bottomed tanks (123,124,125,126,200,201,202,203,204, 205,207,208) will contain solids. All other tanks are cone bottomed and will be essentially empty. Manheads from flat bottomed tanks would be removed. Solids would be shoveled into bins and mixed with sand. Twenty-one days to complete.

D. Sand and solids would be hauled to the landfill. Typical analysis attached.

E. All tanks, piping, and pumps would be cleaned with high pressure water and detergent. Five days to complete.

4. There are no plans to close plant. Its useful life is indefinite. If closure were necessary, completion time would be fifty four days. This time would include all steps necessary for closure.

022-15

(15) Closure Cost Estimate - Amended 5-19-82

1. Pump drum contents to bulk storage, 48 man hours.	$480
2. Cut open drums not emptied and dump solids into bins, 16 man hours.	$160
3. Mix solids with sand and haul to landfill 10% x 600 drums x 55gallons/drum x $.66.	$2200
4. Clean drum storage area, 8 man hours.	$80
5. Pump liquids from tanks to tank trucks 60 trucks x 2 hours x $10/hour.	$1200
6. Freight to waste fuel processor 10¢/gallon x 350,000 gallons.	$35,000
7. Charge from fuel processor 20¢/gal. x 350,000 gals.	$70,000
8. Remove manheads on flat bottomed tanks and remove solids, 400 man hours.	$4,000
9. Mix solids (13,500 gallons) with sand and haul to landfill 66¢ x 13,500 gallons.	$9,000
10. Cleaning tanks and piping $300/tank.	$6,300
11. Disposal of wash water at treatment plant 14¢/gal. x 20,000 gallons.	$2,800

Total cost for closure estimated @ $131,220. Trust fund for entire cost funded 12-8-82.

(16) Post Closure Cost Estimate

Not applicable